Nova Scotia Mineral Profile 1984

Nova Scotia

Department of Mines and Energy

Honourable Joel R. Matheson, Q.C.
Minister

NOVA SCOTIA

ENERGY STATISTICAL PROFILE 1984

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"Nova Scotia Energy Statistical Profile 1984" is the sixth publication of this type prepared by the Nova Scotia Department of Mines and Energy. This document contains a comprehensive review of energy supply and demand in Nova Scotia in 1982, as well as historical data.

The information contained within the following pages should serve as a reference source for students and researchers, as well as being of interest to the public. Since the data has been obtained from several sources, minor discrepancies may exist within the publication. Any questions concerning data within the publication should be addressed to the Economics and Statistics Section of the Energy Management Division, Nova Scotia Department of Mines and Energy, P.O. Box 1087, Halifax, Nova Scotia, B3J 2X1

Nova Scotia Department of
Mines and Energy
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NOVA SCOTIA ENERGY USE — AN OVERVIEW

Energy Use in 1982

Nova Scotia relied on imported crude oil for approximately 72% of its primary energy requirements during 1982, compared to a dependence on foreign oil of more than 80% in 1978. The major price increases in crude oil by OPEC (Organization of Petroleum Exporting Countries) have led to increased "energy awareness" on the part of Nova Scotians, and more efficient use of energy from all sources. This, and other factors, reduced Nova Scotia's total primary energy requirements from a level of 261.75 trillion Btus in 1973 to 237.91 trillion Btus in 1977. After 1978, consumption slowly increased, to 262.45 trillion Btus in 1980, once again reaching a level comparable to that of 1973. However, a major reduction (5.9%) to 246.95 trillion Btus was recorded in 1981 resulting from a combination of energy conservation and the current economic slowdown. This downward trend in energy consumption continued in 1982 with a prevailing further 9.2% decline, to 224.13 trillion Btus. Energy conservation and the continuing recession remained as the main ingredients in the decline in consumption.

Petroleum

Refined petroleum product sales decreased by almost 2.9 million barrels, or 9.9% in 1982. This decline was largely due to a major reduction in heavy fuel oil as a consequence of a changeover to coal in the generation of electrical power in Nova Scotia. Smaller decreases in motor gasoline, diesel fuel oil and light fuel oil sales also occurred. Changes in the sales of some major petroleum products in 1982 were as follows:

Product	Change over 1981
Motor Gasoline	-334,869 barrels or -4.4%
Light Fuel Oil	-102,316 barrels or -1.9%
Diesel Fuel Oil	-185,275 barrels or -5.0%
Heavy Fuel Oil	-1,962,017 barrels or -21.7%

Coal

Coal production increased significantly during 1982, with an increase of 20.2% from the level recorded during the previous year. This increase resulted from several factors, including depressed production levels in 1981 due to the strike which shut down Cape Breton Development Corporation mines during the summer, and increased demand for coal for electric power generation and export.

Electricity

Electrical generation within the province increased marginally in 1982, up 0.2%. However, net electricity available fell by 1.4% in 1982 since deliveries of electricity to New Brunswick remained basically the same, while receipts of electricity from New Brunswick fell from their 1981 level. Nova Scotia's capacity to generate electricity from large scale hydro is largely developed and future increases are most likely to come from added thermal production and the tidal power development.

TOTAL ENERGY USE

Primary energy[1] consumption fell 9.2% in 1982; since 1973 the average annual decrease has been approximately 1.7%. In 1982, crude oil provided 71.8% of total energy requirements, compared to 72.4% recorded in 1981. Hydro energy provided approximately 5.0% of total energy requirements in 1982, decreasing from 5.5% the previous year. Coal supplied 23.2% of total energy in 1982, up from 22.1% of total energy use in 1981. This proportion should increase well into the 1980s because of the displacement of oil by coal in thermal electric generation.

Primary Energy Consumption[2] 1973-1982
(trillions of Btus/trillions of kilojoules)

	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1982
Hydro	10.12	9.00	8.24	11.65	11.58	9.94	15.28	8.49	13.59	11.27	11.88
Coal	35.63	35.28	29.36	32.23	25.69	34.50	42.50	57.97	54.65	51.93	54.77
Petroleum	216.00	208.50	205.82	201.21	200.64	207.33	203.35	195.99	178.71	160.93	169.72
Total	261.75	252.78	243.42	245.09	237.91	251.77	261.13	262.45	246.95	224.13	236.37

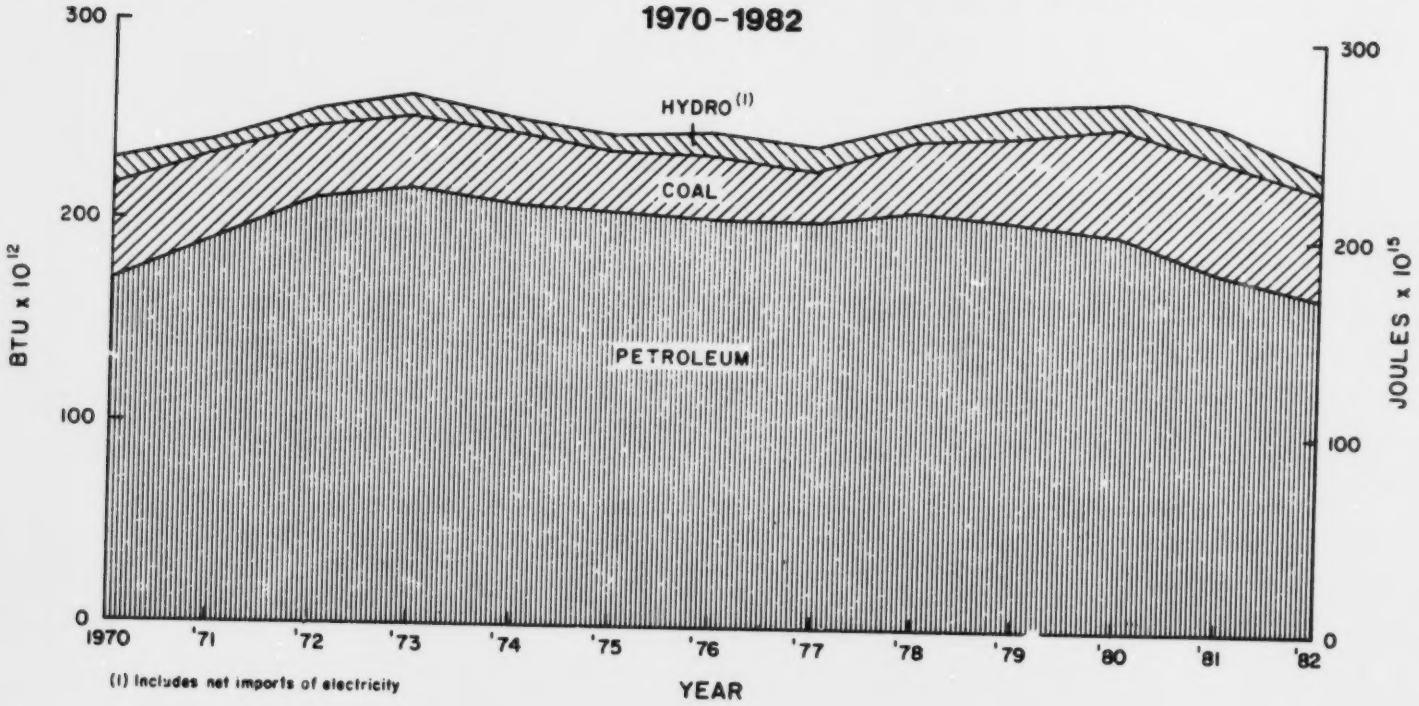
[1] Primary energy refers to the gross consumption of all energy sources. All energy imports by the province as well as losses during conversion of primary to secondary energy (i.e. electricity) are included.

[2] Excludes wood and other renewables due to data limitations.

Shaded area represents metric equivalent (trillions of kilojoules)

PRIMARY ENERGY CONSUMPTION - NOVA SCOTIA

1970-1982



(1) Includes net imports of electricity

PER CAPITA
PRIMARY ENERGY
CONSUMPTION

The Atlantic region has the highest per capita consumption of crude oil as a primary energy source in Canada. This crude oil is predominately imported. The Atlantic Provinces are, therefore, dependent upon foreign sources for the majority of their energy requirements. Due to the relative insecurity of foreign supplies and the lack of available alternative fuels such as natural gas, this region is very vulnerable to outside supply disruptions.

However, this dependence has been declining in recent years, as indigenous resources have been substituted for foreign energy supplies. The use of coal for electricity generation has been increasing, at the expense of foreign crude oil. In addition, crude oil from Western Canada is now available to refineries in the Atlantic region, which has reduced the requirements for imported crude oil even more.

Primary Energy Consumption Per Capita and Net Foreign Dependence (1982)
(millions of Btus/billions of joules)

	Crude Oil	Coal	Hydro	Nuclear	Natural Gas	TOTAL	Metric Equivalent	% Foreign Dependence
Canada (inc. NWT & Yukon)	133.9	37.5	91.0	14.7	63.0	340.1	358.7	14.2
Nfld.	144.5	0.1	128.4	-	-	273.0	287.9	44.8
P.E.I.	130.6	3.7	38.8	-	-	173.1	182.6	63.8
N.S.	188.7	60.9	13.2	-	-	262.8	277.2	60.9
N.B.	206.7	20.9	38.7	3.6	0.1	270.0	284.7	65.2
Que.	127.9	1.9	182.0	-	16.2	327.9	345.8	18.9
Ont.	116.6	56.7	38.5	41.3	72.2	325.4	343.2	18.5
Man.	113.4	6.1	135.9	-	61.9	317.3	334.6	0.7
Sask.	150.6	92.0	26.8	-	100.2	369.6	389.8	0.1
Alta.	165.5	108.8	8.0	-	214.4	496.7	523.8	0.0
B.C.	133.2	0.7	150.3	-	56.5	340.6	359.2	3.5

Shaded area represents metric equivalent (billions of joules)

Source: Coal and Coke Statistics
Statistics Canada Catalogue No. 45-002

Refined Petroleum Products
Statistics Canada Catalogue No. 45-004

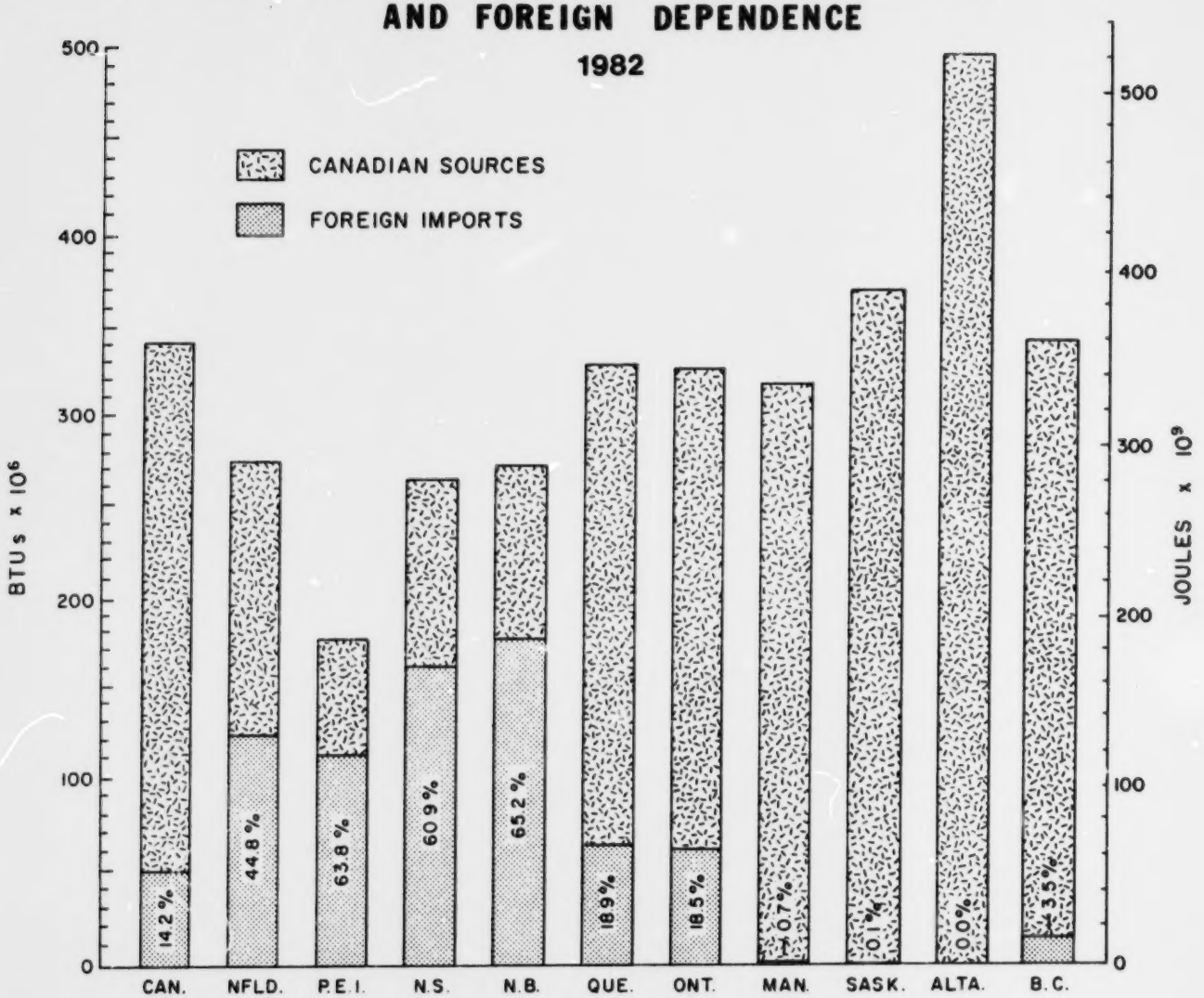
Gas Utilities
Statistics Canada Catalogue No. 55-002

Electric Power Statistics
Statistics Canada Catalogue No. 57-001

Totals may not equal sum of components due to independent rounding

PER CAPITA PRIMARY ENERGY CONSUMPTION AND FOREIGN DEPENDENCE

1982



LOSSES DURING CONVERSION OF PRIMARY ENERGY TO END USE ENERGY

In Nova Scotia, 224.13 trillion Btus of primary energy were consumed during 1982. This represents total consumption of primary resources including petroleum products, coal and hydro. However, a substantial portion of these primary resources were used to generate secondary energy, including electricity and coke. The percentages of each primary source used for creating secondary, or "end use", energy are shown by the shaded parts of the energy pie diagram at the right. In 1982, this end use energy consumption equalled 163.58 trillion Btus. Thus, 27.0% of primary energy used was lost during conversion.

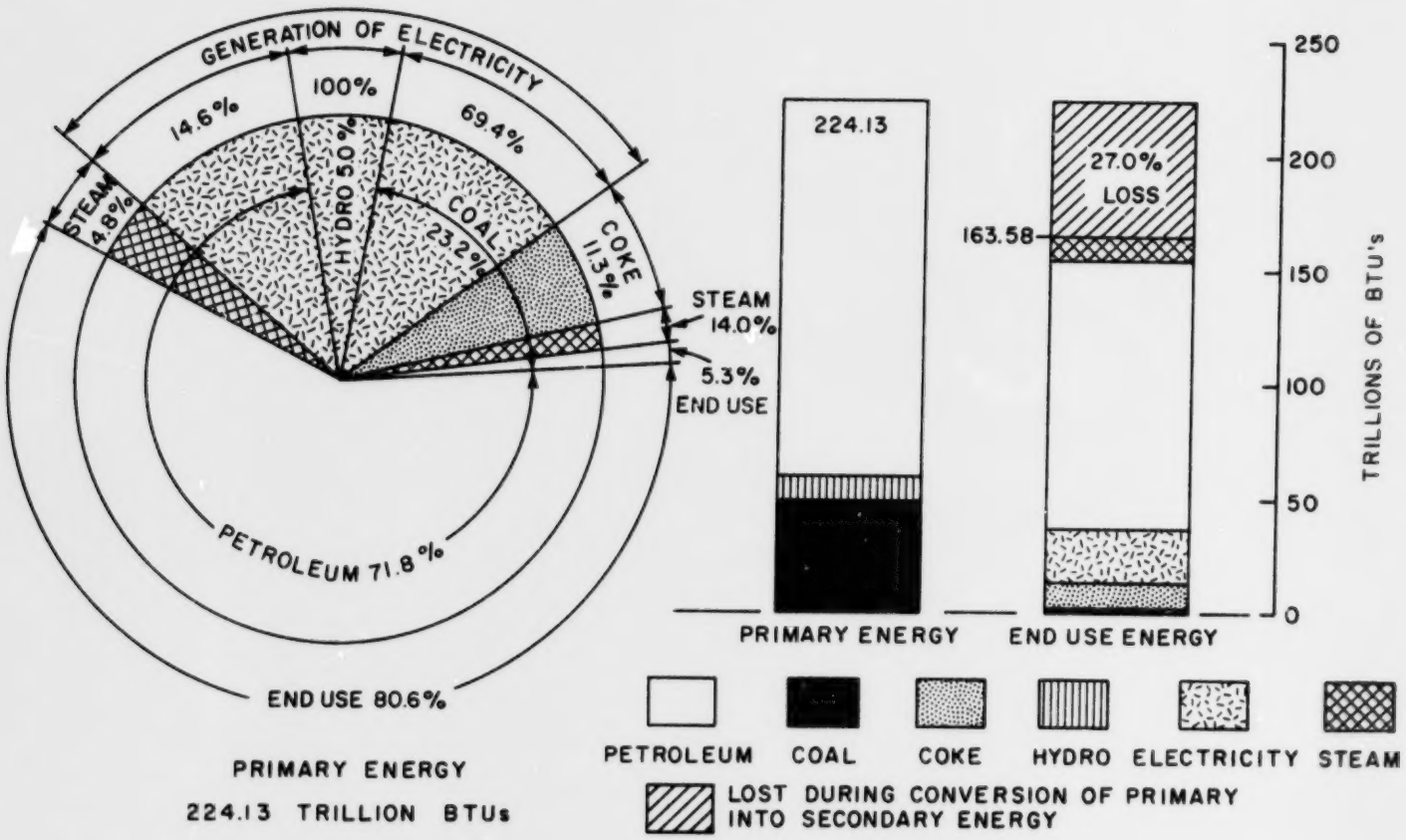
Primary Energy[1] (trillions of Btus)			End Use Energy[1] (trillions of Btus)		
		% of Total			% of Total
Hydro	11.27	5.0%	Electricity	20.69	12.7%
Coal	51.93	23.2%	Coal	2.77	1.7%
Petroleum	160.93	71.8%	Coke[2]	4.12	2.5%
Total	224.13	100.0%	Petroleum[3]	120.08	73.4%
			Steam	15.92	9.7%
			Total	163.58	100.0%

1 Excludes wood and other renewables due to data limitations
2 Includes coke oven gas
3 Includes Gas Plant NGLs

LOSSES DURING CONVERSION

OF PRIMARY ENERGY TO END USE ENERGY

1982

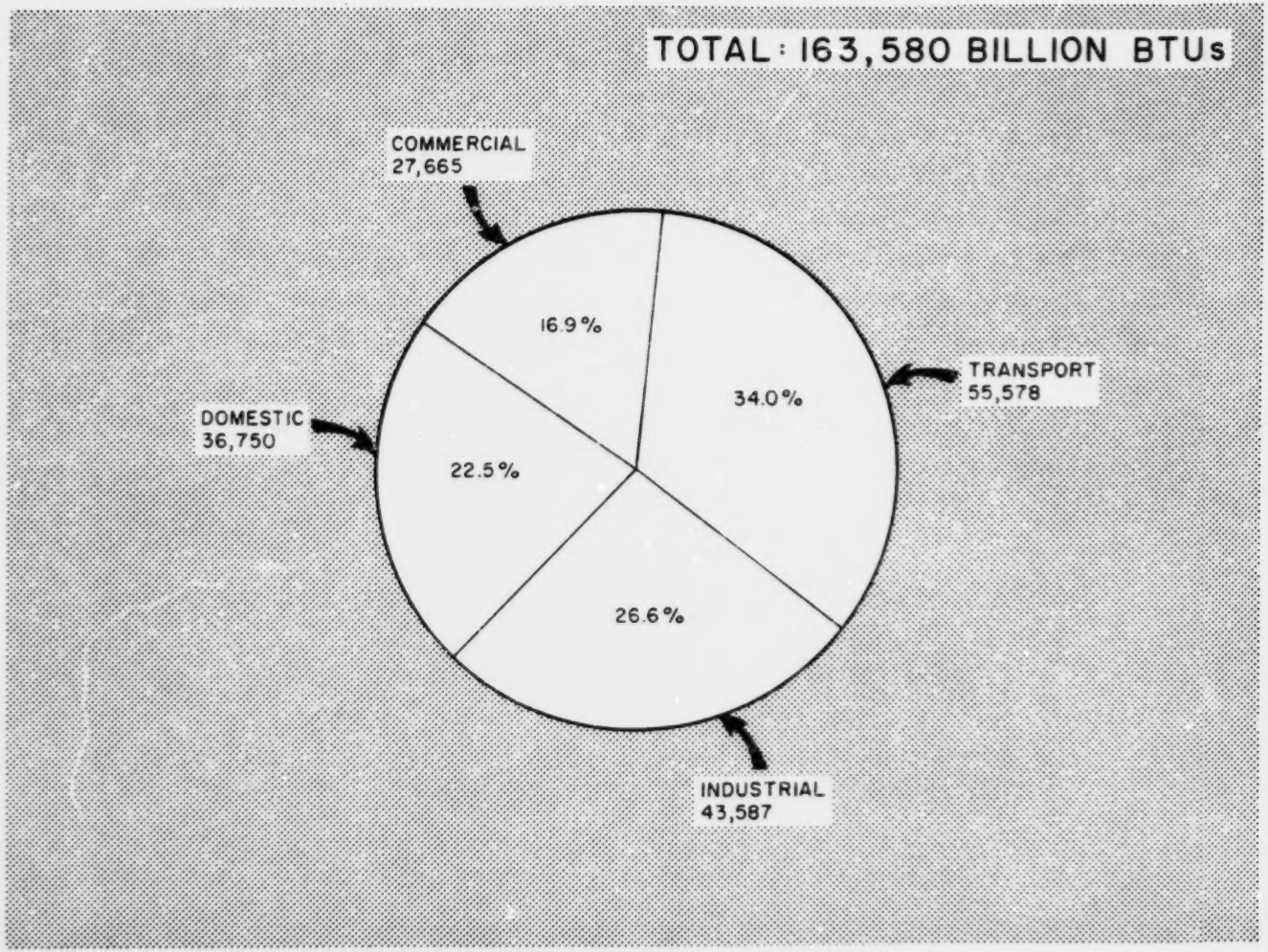


NOVA SCOTIA
END USE ENERGY
CONSUMPTION

End use energy refers to the energy used by the final consuming sectors. End use energy consumed in Nova Scotia during 1982 totalled 163.58 trillion Btus, a decrease of 5.8% from the previous year. End use energy consumption fell in all sectors except the commercial sector. The transportation sector was the largest consumer accounting for 34.0% of the total. The industrial and domestic sectors consumed 26.6% and 22.5%, respectively. The commercial sector accounted for the remaining 16.9% of end use energy consumption. The following diagram illustrates a more complete breakdown for 1982.

END USE ENERGY CONSUMPTION

1982



PER CAPITA END USE ENERGY CONSUMPTION - NOVA SCOTIA AND CANADA

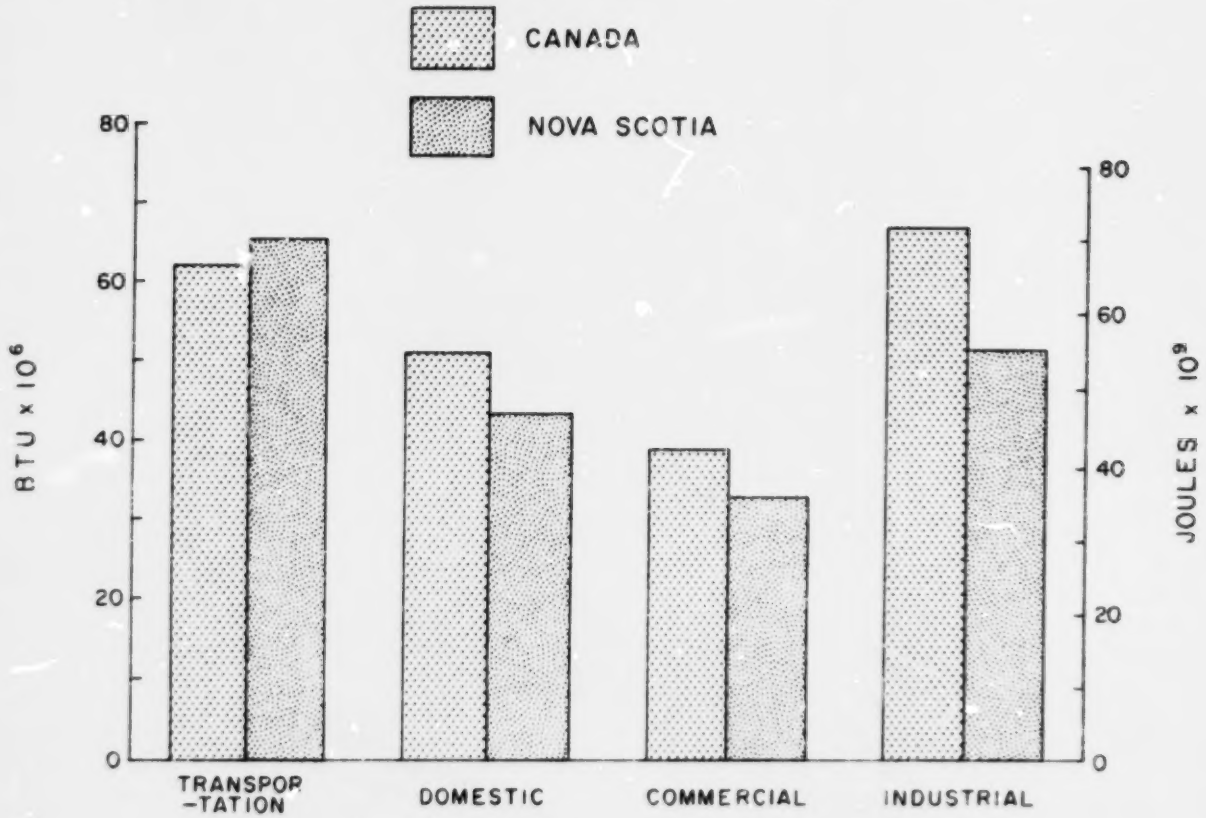
Per capita end use energy consumption in Nova Scotia in 1982 was approximately 88% of the national average. Part of this difference can be attributed to Nova Scotia's less energy intensive industrial base as compared with other regions in Canada. A lower domestic sector usage can be traced to a greater conservation effort in this Province than in others due to higher fuel prices and a high number of conversions to wood for supplemental heating. Higher per capita transportation consumption is due to the large amount of marine fuel use in this Province, and the fact that public transportation is not available in many areas of Nova Scotia. The following table and chart provide a detailed comparison of energy demand by sector in Canada and Nova Scotia.

Per Capita End Use Energy Consumption
By Sector, 1982
(millions of Btus)

	Nova Scotia		Canada	
	Consumption per Capita	% of Total	Consumption per Capita	% of Total
Transportation	65.2	34.0	61.9	28.3
Domestic	43.1	22.5	50.8	23.2
Commercial	32.4	16.9	39.2	17.9
Industrial	51.1	26.6	66.8	30.6
TOTAL	191.8	100.0	218.7	100.0

PER CAPITA END USE ENERGY CONSUMPTION

1982



Nova Scotia Energy Demand By Sector 1982[1]

(billions of Btus/trillions of joules)

NOVA SCOTIA DETAILED END USE ENERGY DEMAND

	Coal	Coke	Coke Oven Gas	Gas Plant NGLs	Motor Gasoline	Kerosene & Stove Oil	Diesel Fuel Oil
Transportation							
- Road	-	-	-	4	33,676	-	4,759
- Rail	-	-	-	-	-	-	1,896
- Air	-	-	-	-	-	-	-
- Marine	-	-	-	-	-	-	5,614
- Total	-	-	-	4	33,676	-	12,269
Domestic & Farm	1,560	-	-	778	1,036	2,737	943
Commercial	63	-	-	822	3,506	268	4,086
Industrial	1,150	2,809	1,313	264	-	60	2,909
Total	2,773	2,809	1,313	1,868	38,218	3,065	20,207
Metric Equivalent	2,925	2,962	1,385	1,970	40,305	3,232	21,311

[1] The Nova Scotia detailed "energy demand" presented above and at the right illustrates end use energy consumption by fuel and by sector. As the data represents End Use, conversion losses as previously cited are not included.

Nova Scotia Energy Demand by Sector 1982

(billions of Btus/trillions of joules)

Light Fuel Oil	Heavy Fuel Oil	Aviation Gasoline	Aviation Turbo Fuel	Electricity	Steam	Total	Metric Equivalent	
								Transportation
-	-	-	-	2	-	38,441	40,540	- Road
-	1,787	-	-	-	-	3,683	3,884	- Rail
-	-	68	5,016	-	-	5,084	5,362	- Air
-	2,756	-	-	-	-	8,370	8,827	- Marine
-	4,543	68	5,016	2	-	55,578	58,613	- Total
22,049	471	-	-	7,176	-	36,750	38,757	Domestic & Farm
7,135	5,908	-	-	5,549	328	27,665	29,176	Commercial
2,032	9,495	-	-	7,967	15,588	43,587	45,968	Industrial
31,216	20,417	68	5,016	20,694	15,916	163,580	172,514	Total
32,921	21,532	72	5,290	21,824	16,785	172,514	-	

Shaded area represents metric equivalent (trillions of joules)

Source: Quarterly Report on Energy Supply-Demand in Canada
Statistics Canada Catalogue No. 57-003

PETROLEUM PRODUCTS

INTRODUCTION

Petroleum products play a major role in fulfilling the energy needs of consumers in Nova Scotia. The transportation and electrical generation sectors are the major consumers of petroleum products in the province's economy. The general trend in Nova Scotia indicates that a slightly lower growth in petroleum consumption has taken place since 1974 than in the preceding decade. Further examination of petroleum consumption and a sector by sector analysis is contained in the following pages.

CANADIAN CRUDE OIL PRICES

Crude oil prices have increased dramatically during the period from 1973 to 1982 with the price of imported crude oil increasing at an average annual rate of 27.5%. The average annual rates of increase in the domestic price and the Atlantic Refiner price have not been as steep, with rates of 22.7% and 25.3%, respectively. However, as in 1981, the rate of increase in domestic prices was very high in 1982 as policies designed to narrow the gap between Canadian and world oil prices continued unabated, even though imported crude oil prices began to fall. In 1982 domestic prices were 62% of imported prices.

Atlantic Refiner costs can be expected to continue their climb as higher priced new oil displaces old, lower priced crude in Western Canada.

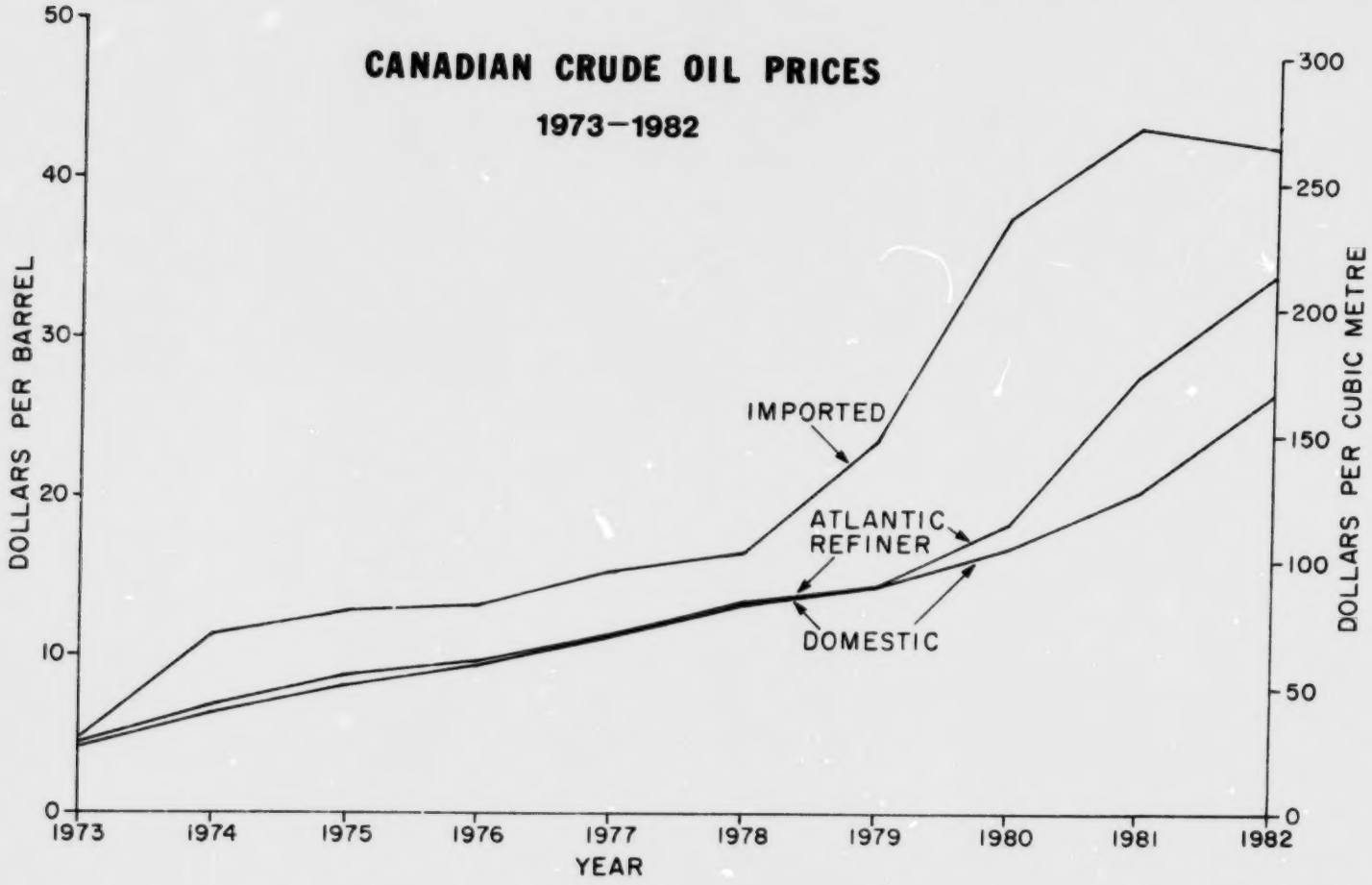
Canadian Crude Oil Prices, 1973-1982

(dollars per barrel/dollars per cubic metre)

	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1982
Domestic Price[1]	4.16	6.46	8.04	9.30	11.07	13.14	14.23	16.71	20.30	26.31	165.58
Atlantic Refiner Cost[2]	4.42	6.80	8.22	9.50	11.22	13.26	14.31	18.10	27.78	33.76	212.45
Imported Cost[3]	4.75	11.27	12.71	13.01	15.18	16.44	23.37	37.57	43.33	42.31	266.24

[1] The Alberta wellhead price for old oil plus gathering costs and transportation to Montreal.
[2] The domestic price plus federal levies.
[3] The imported price landed in Montreal and adjusted to the average quality of Canadian crude.

Shaded area represents metric equivalent (dollars per cubic metre)


CANADIAN CRUDE OIL PRICES
1973–1982
DOLLARS PER BARREL
DOLLARS PER CUBIC METRE
YEAR
IMPORTED
ATLANTIC REFINER
DOMESTIC
0
10
20
30
40
50
0
50
100
150
200
250
300
1973
1974
1975
1976
1977
1978
1979
1980
1981
1982

CRUDE OIL IMPORTS - ATLANTIC PROVINCES

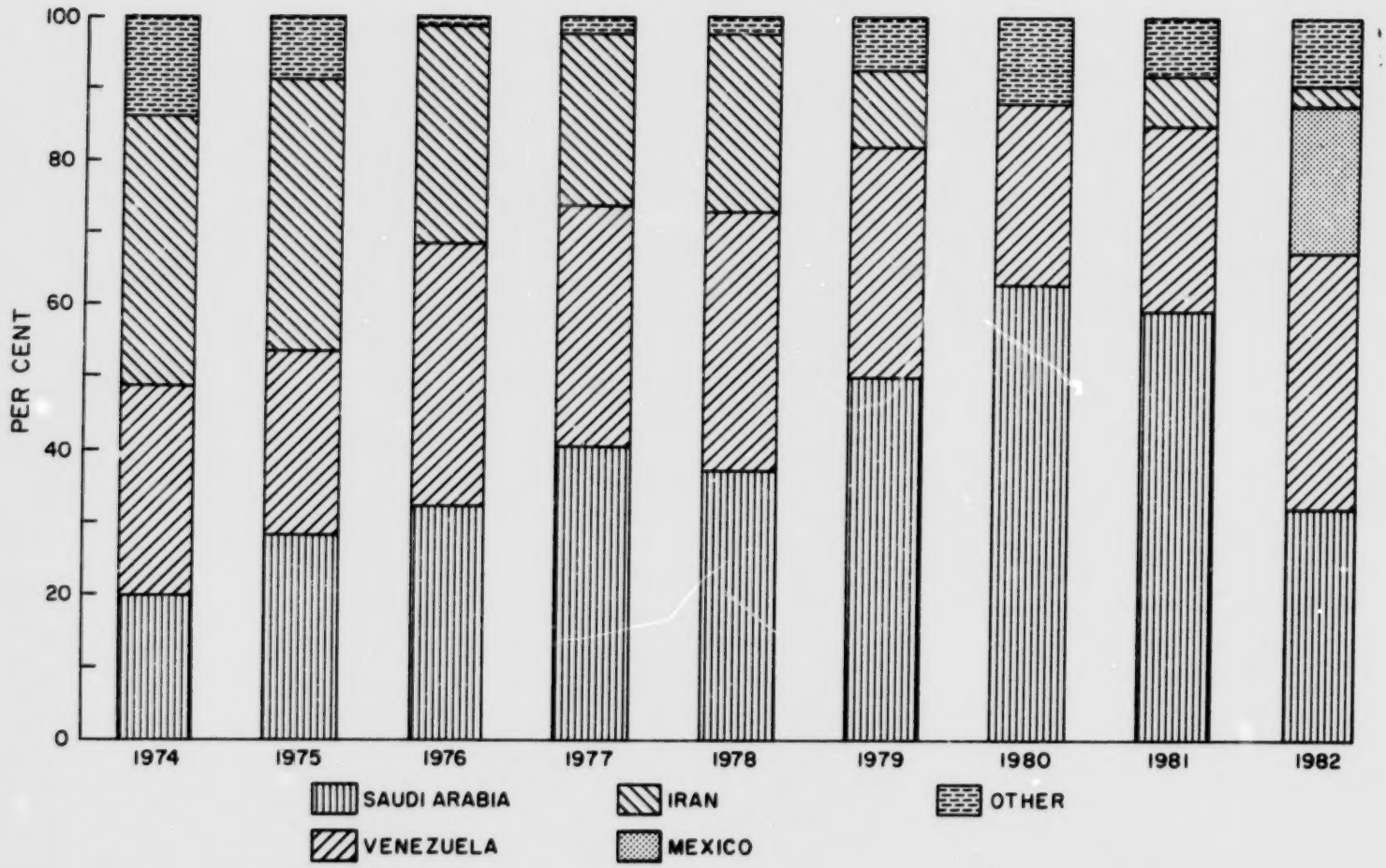
Crude oil imports into the Atlantic Provinces in 1982 amounted to 39.9 million barrels, 46.8% lower than crude oil imports during the previous year. This reduction was caused by a number of factors, including a falling demand for refined petroleum products, the receipt by Atlantic Refineries of over 8.6 million barrels of Western crude for the first time in 1982, a significant reduction in the volume of oil products refined in the region and exported, and a large drawdown of crude and product inventories. The diagram on the following page shows the origin of these crude oil imports. Mexico has entered the picture as a major supplier in recent years while Iranian and other Middle East imports have been phased out due to that region's instability.

Atlantic Provinces Crude Oil Imports, 1974-1982
(millions of barrels/millions of cubic metres)

	1974	1975	1976	1977	1978	1979	1980	1981	1982	1982
Imports	127.1	115.5	93.2	106.2	100.1	117.4	101.2	75.0	39.9	6.3

Shaded area represents metric equivalent (millions of cubic metres)

Source of Crude Oil Imports - Atlantic Provinces
1974-1982



NOVA SCOTIA
REFINERY
STATISTICS

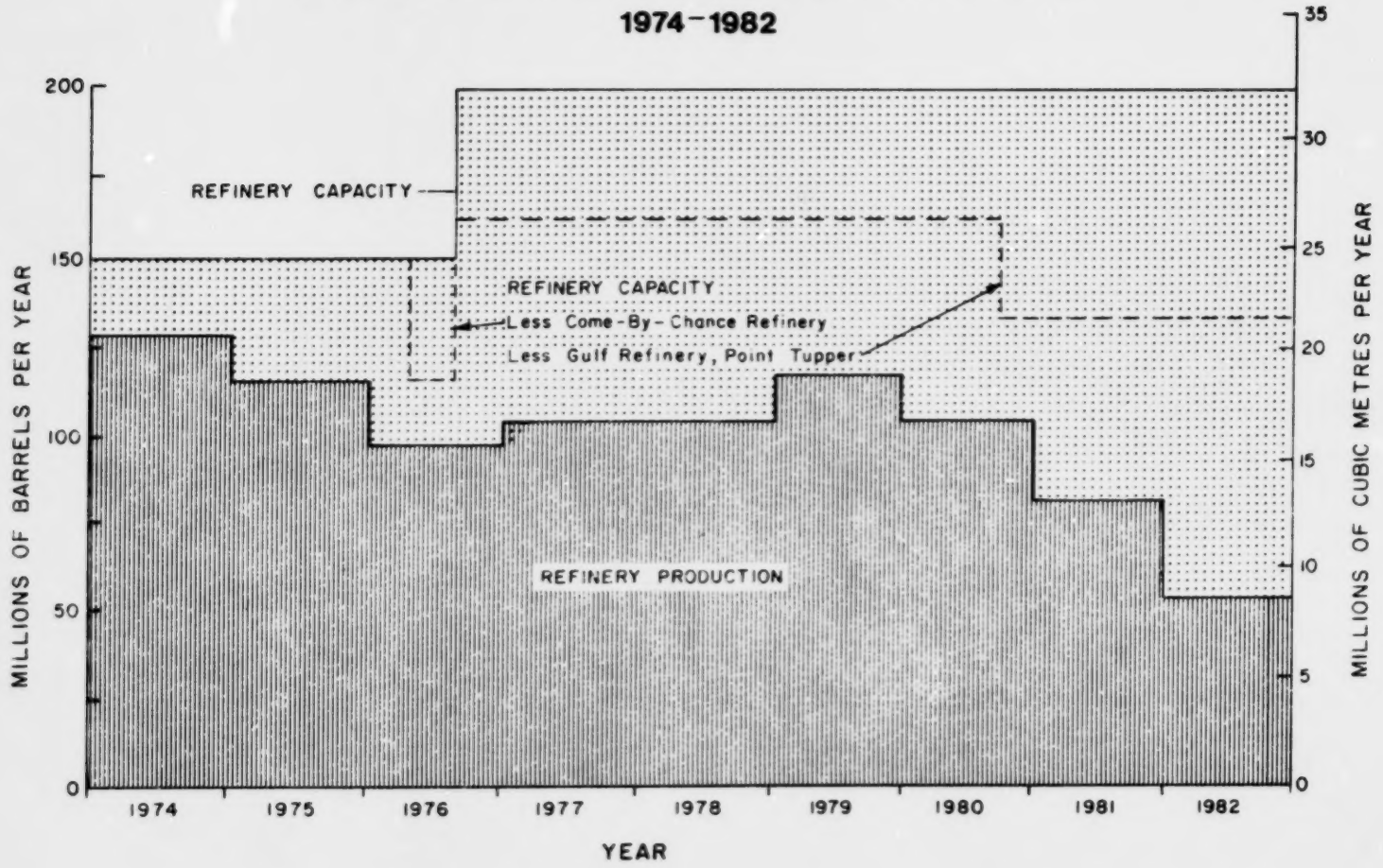
Atlantic Canada currently has excess capacity in the petroleum refining industry. This has already caused the closure of the Come-by-Chance refinery in Newfoundland and the Gulf Oil Canada Limited refinery at Point Tupper, Nova Scotia. Both remaining Nova Scotia refineries have diversified their supply bases by bringing in Western Canadian crude oil. The diagram on the following page presents the level of refinery utilization in Atlantic Canada for the period 1973-1982. Refinery statistics for Nova Scotia are shown in the table below.

Company	Location	Major Source of Crude - 1982	Crude Oil Capacity Barrels per day
Gulf Oil[1] Canada Limited	Pt. Tupper	—	80,000
Imperial Oil Enterprises Ltd.	Dartmouth	Venezuela	82,500
Texaco Canada Ltd.	Dartmouth	Venezuela & Middle East	18,000
		Total Capacity	180,500

Source: Energy and Mines Division - Statistics Canada
1 Ceased production as of October, 1980

ATLANTIC CANADA REFINERY UTILIZATION

1974–1982



ATLANTIC
NET SALES,
EXPORTS AND
IMPORTS OF
REFINED
PETROLEUM
PRODUCTS

Sales of refined petroleum products in Atlantic Canada in 1982 fell 6.6% from the level of sales in 1981. Export sales to the United States also decreased significantly in 1982, falling 85.7%, while imports of refined products increased 37.3%.

Atlantic Net Sales, Exports, and Imports of Refined Petroleum Products, 1973-1982
(millions of barrels/millions of cubic metres)

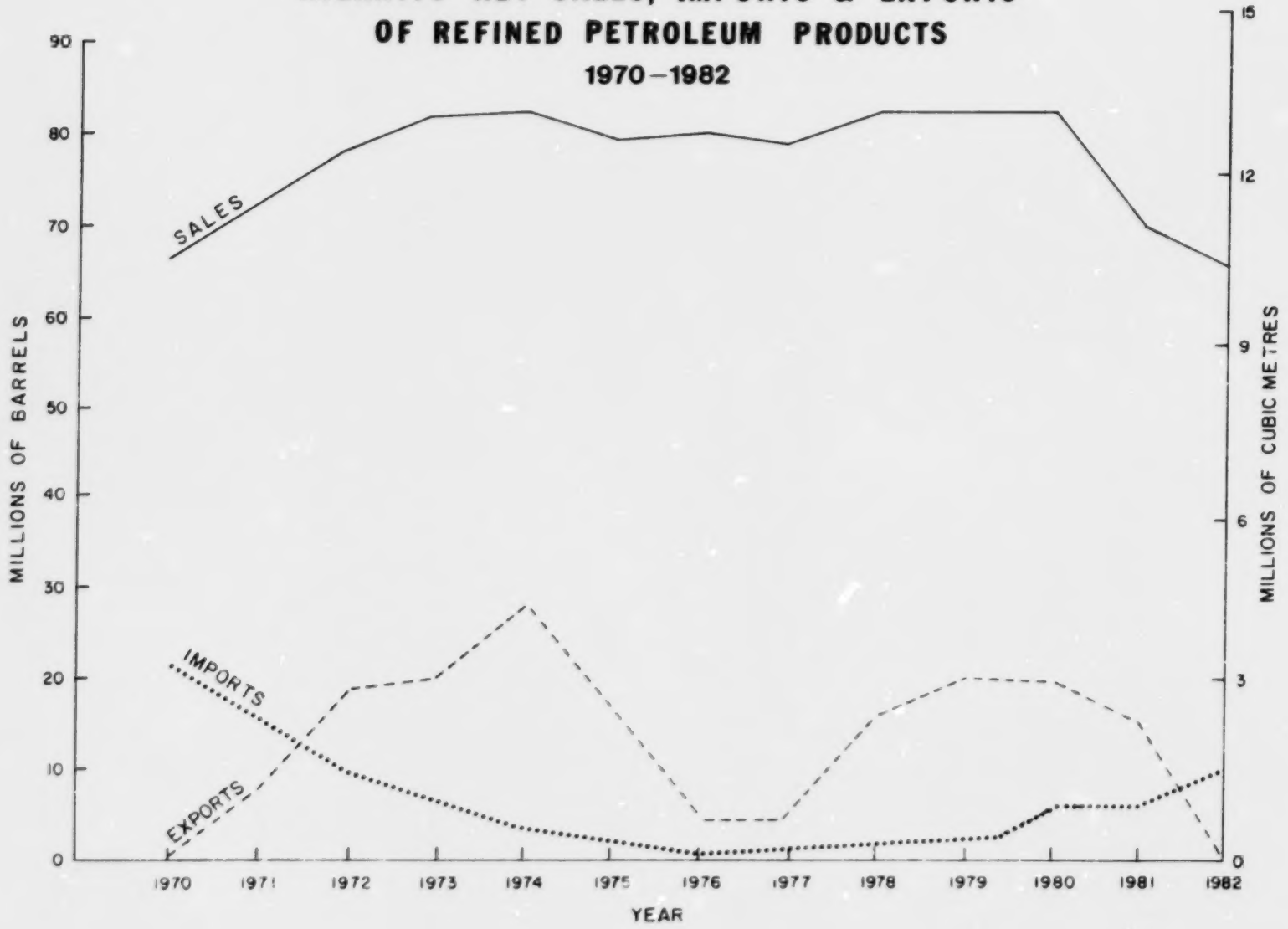
	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1982
Net Sales	82.0	81.9	78.6	80.2	78.9	82.6	83.3	83.3	70.2	65.6	10.4
Exports	20.6	27.5	15.4	4.2	5.5	15.6	20.3	19.9	15.4	2.2	0.3
Imports	6.1	3.3	2.1	0.3	0.8	0.7	1.4	6.2	6.7	9.2	1.5

Shaded area represents metric equivalent (millions of cubic metres)

Source: Refined Petroleum Products
Statistics Canada Catalogue No. 45-004

ATLANTIC NET SALES, IMPORTS & EXPORTS OF REFINED PETROLEUM PRODUCTS

1970–1982



NOVA SCOTIA
REFINED
PETROLEUM
PRODUCT SALES

Sales of refined petroleum products decreased by 9.9% during 1982. A major reduction in heavy fuel oil sales and smaller decreases in motor gasoline, diesel fuel oil, and light fuel oil were the major reasons for the overall decrease. Light fuel oil sales increased to 20.8% of total refined petroleum product sales in 1982 from 19.1% in 1981. Heavy fuel oil sales fell from 31.4% of total net sales in 1981 to 27.3% in 1982. The share accounted for by motor gasoline increased to 28.2% in 1982 from 26.6% the previous year.

Nova Scotia Refined Petroleum Product Sales, 1978 - 1982

(thousands of barrels/thousands of cubic metres)

Product	1978	1979	1980	1981	1982	1982
Propane & Propane Mixes	385	428	438	384	356	57
Butane & Butane Mixes	7	-	-	-	10	2
Petro-Chemical Feedstocks	141	191	200	166	158	25
Naptha Specialties	27	29	30	29	22	4
Aviation Gasoline	118	94	48	7	14	2
Motor Gasoline	7791	7938	7902	7653	7318	1163
Aviation Turbo Fuel	685	747	772	922	927	147
Kerosene/Stove Oil	965	834	767	590	540	86
Diesel Fuel Oil	3449	3592	3678	3741	3556	565
Light Fuel Oil	6402	6146	6297	5483	5381	855
Heavy Fuel Oil	12592	11944	10638	9034	7072	1124
Asphalt	655	623	607	591	400	63
Lubrication Oil & Grease	159	173	178	171	160	25
Other Products	14	11	9	10	4	1
Total, All Products[1]	33390	32750	31564	28781	25918	4119

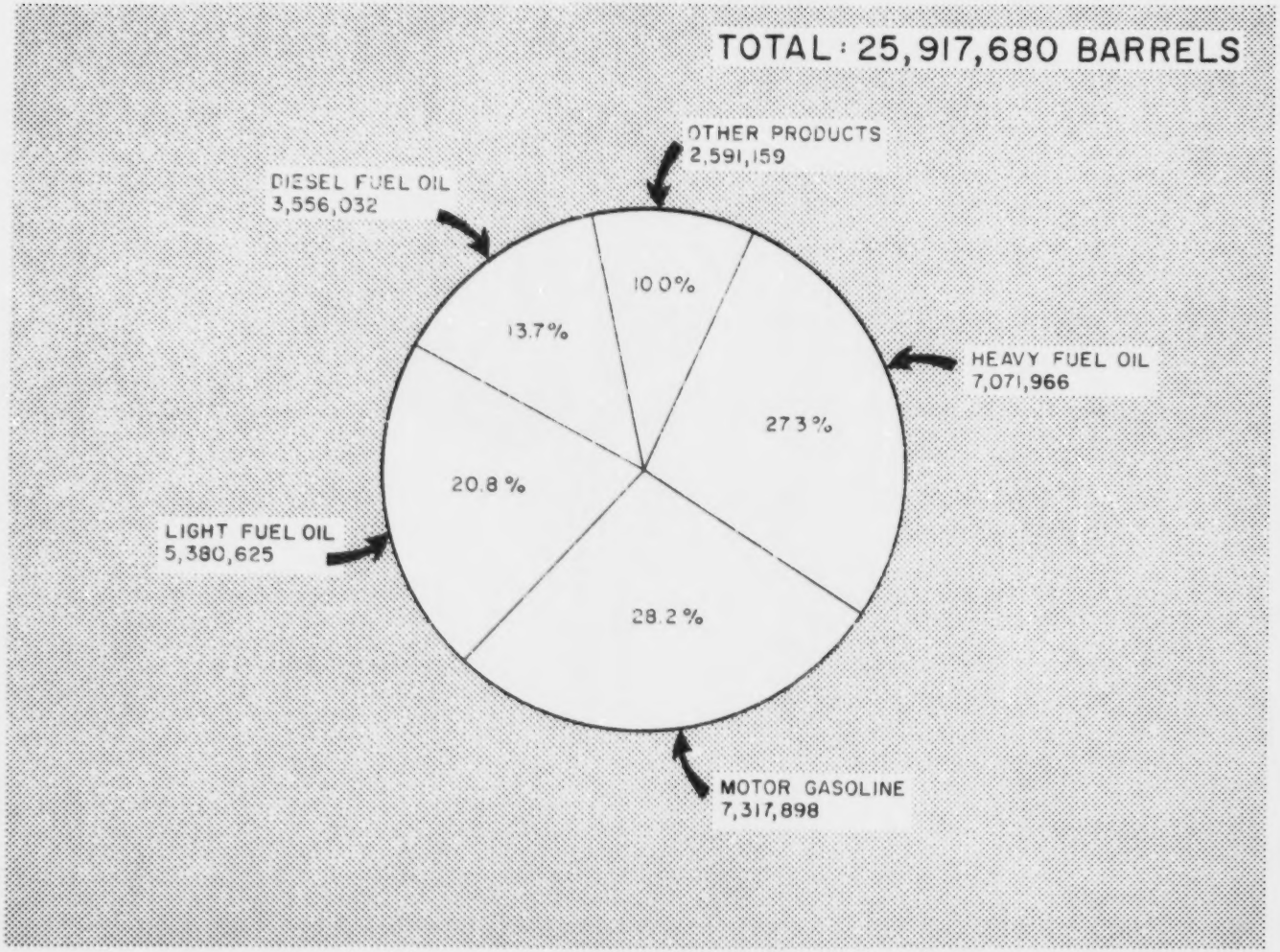
Shaded area represents metric equivalent (thousands of cubic metres)

Source: Refined Petroleum Products
Statistics Canada Catalogue No. 45-004

[1] components may not sum to total due to rounding

N. S. SALES OF REFINED PETROLEUM PRODUCTS

1982



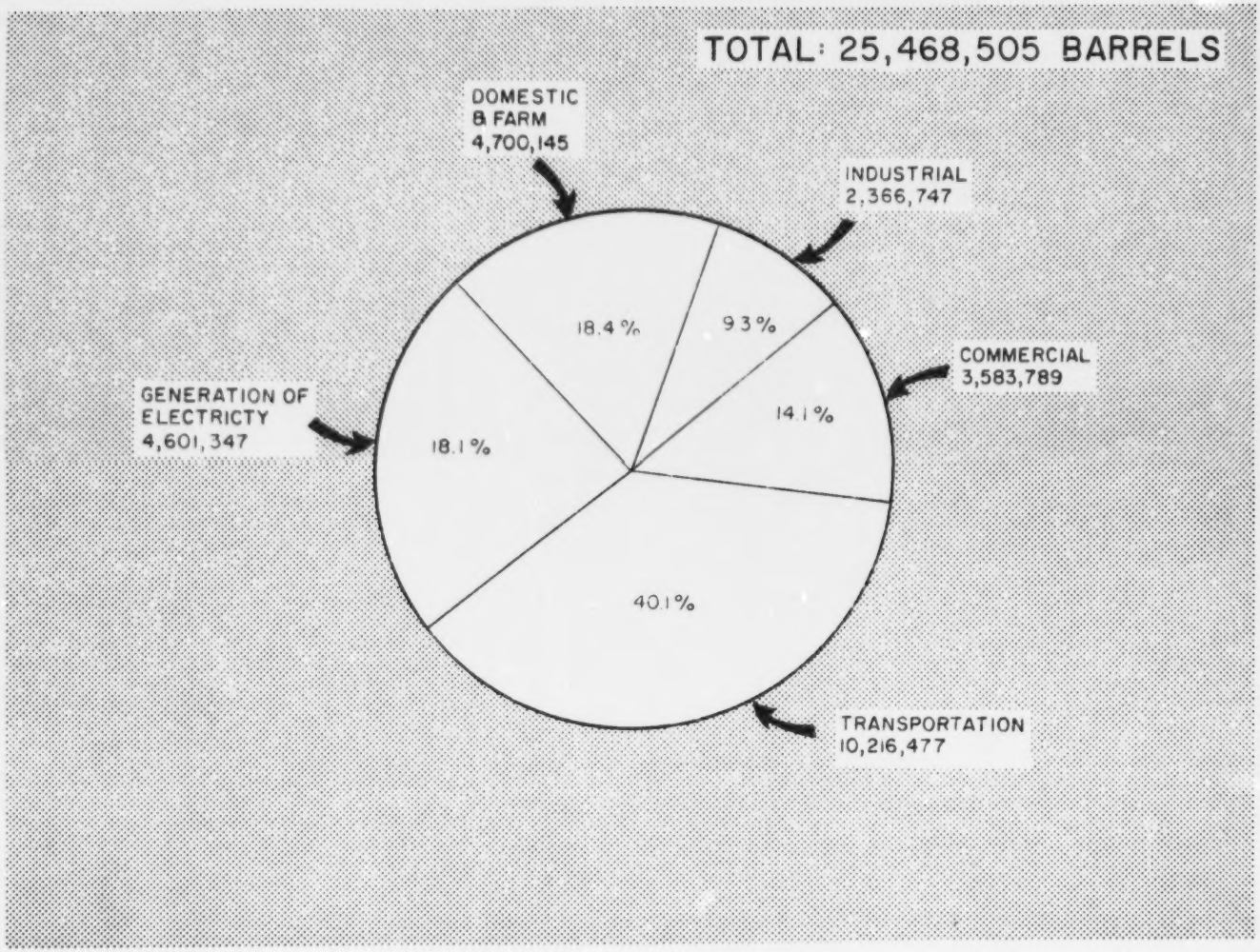
NOVA SCOTIA
PETROLEUM
END USE

In 1982, petroleum product end use[1] totalled 25,468,505 barrels, down 6.1% from the previous year. This figure differs from total Nova Scotia sales of refined petroleum products in that the end use figure does not include petroleum products used by the oil refinery and supply industry. Of this total petroleum end use, the transportation sector accounted for 40.1%. The generation of electricity and steam and use by the domestic sector represented 18.1% and 18.4% of petroleum end use, respectively.

[1] Fuels used to generate electricity and steam have been included in petroleum product end use.

PETROLEUM END USE

1982



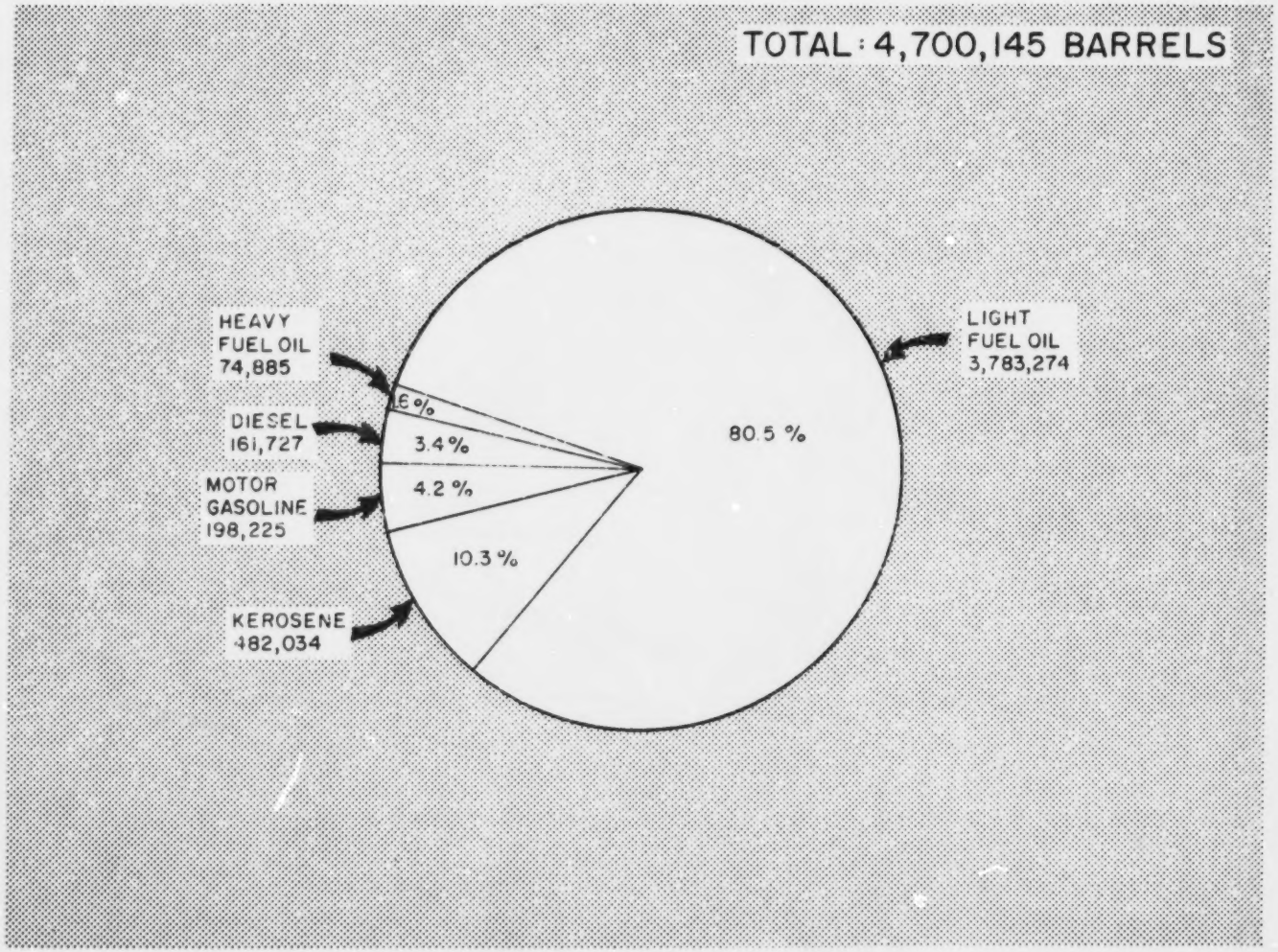
PETROLEUM PRODUCTS CONSUMED IN THE DOMESTIC SECTOR

The domestic sector of Nova Scotia accounted for 4,700,145[1] barrels of petroleum end use consumption in 1982, a 3.9% reduction from 1981 requirements. Home heating fuel (light fuel oil and kerosene) represented 90.8% of petroleum product use[1]. The following pie diagram illustrates the fuels used by domestic consumers.

[1] Gasoline used for transportation purposes by the domestic sector is included in the transportation sector, rather than the domestic sector. The motor gasoline included here is "farm use".

FUELS USED IN THE DOMESTIC SECTOR

1982

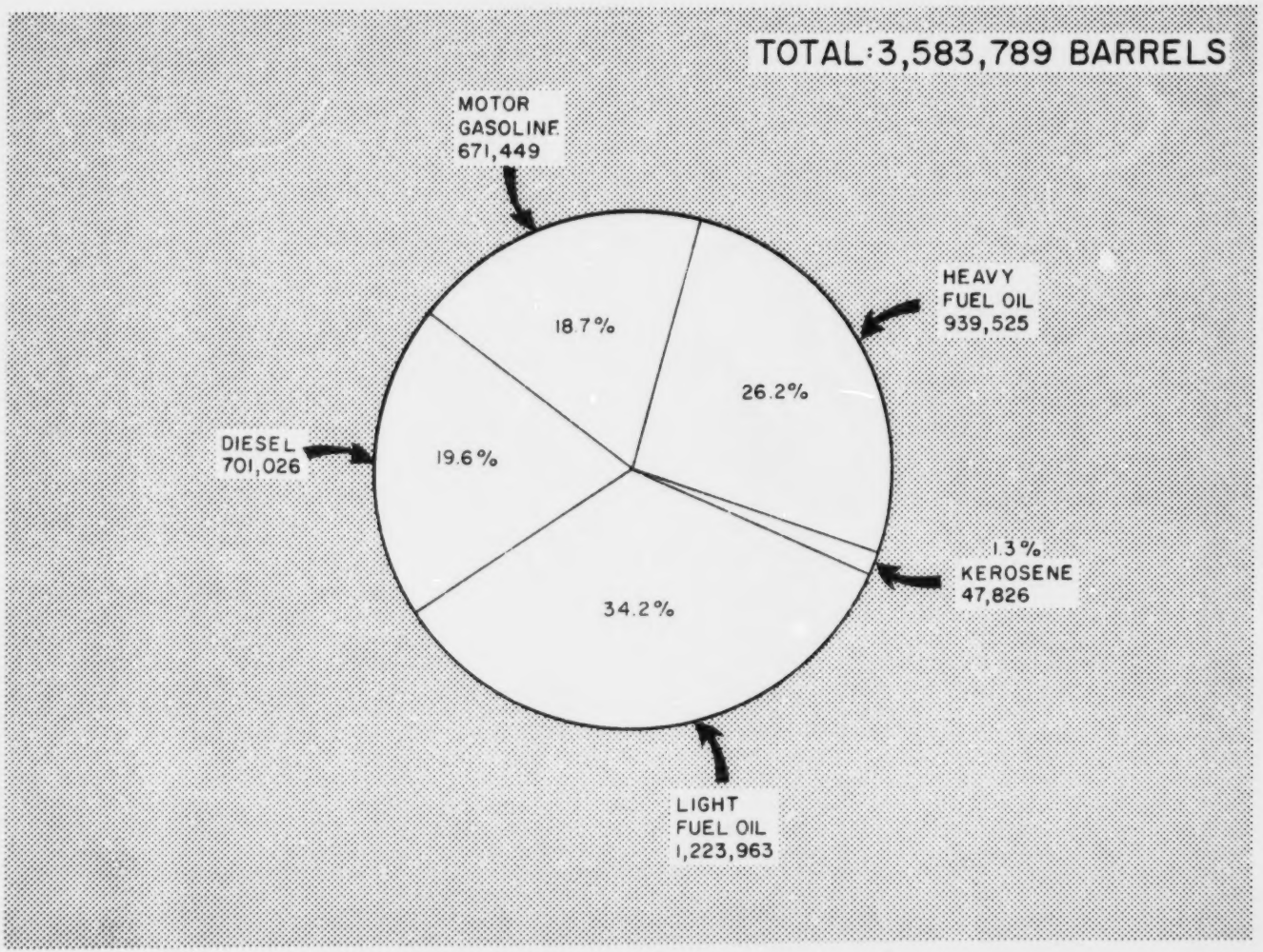


PETROLEUM PRODUCTS
CONSUMED IN THE
COMMERCIAL SECTOR

The commercial sector in Nova Scotia consumed 14.1% of the total petroleum end use or 3,583,789 barrels of petroleum products in 1982. Of this amount 34.2% was light fuel oil, while heavy fuel oil accounted for another 26.2%

FUELS USED IN THE COMMERCIAL SECTOR

1982

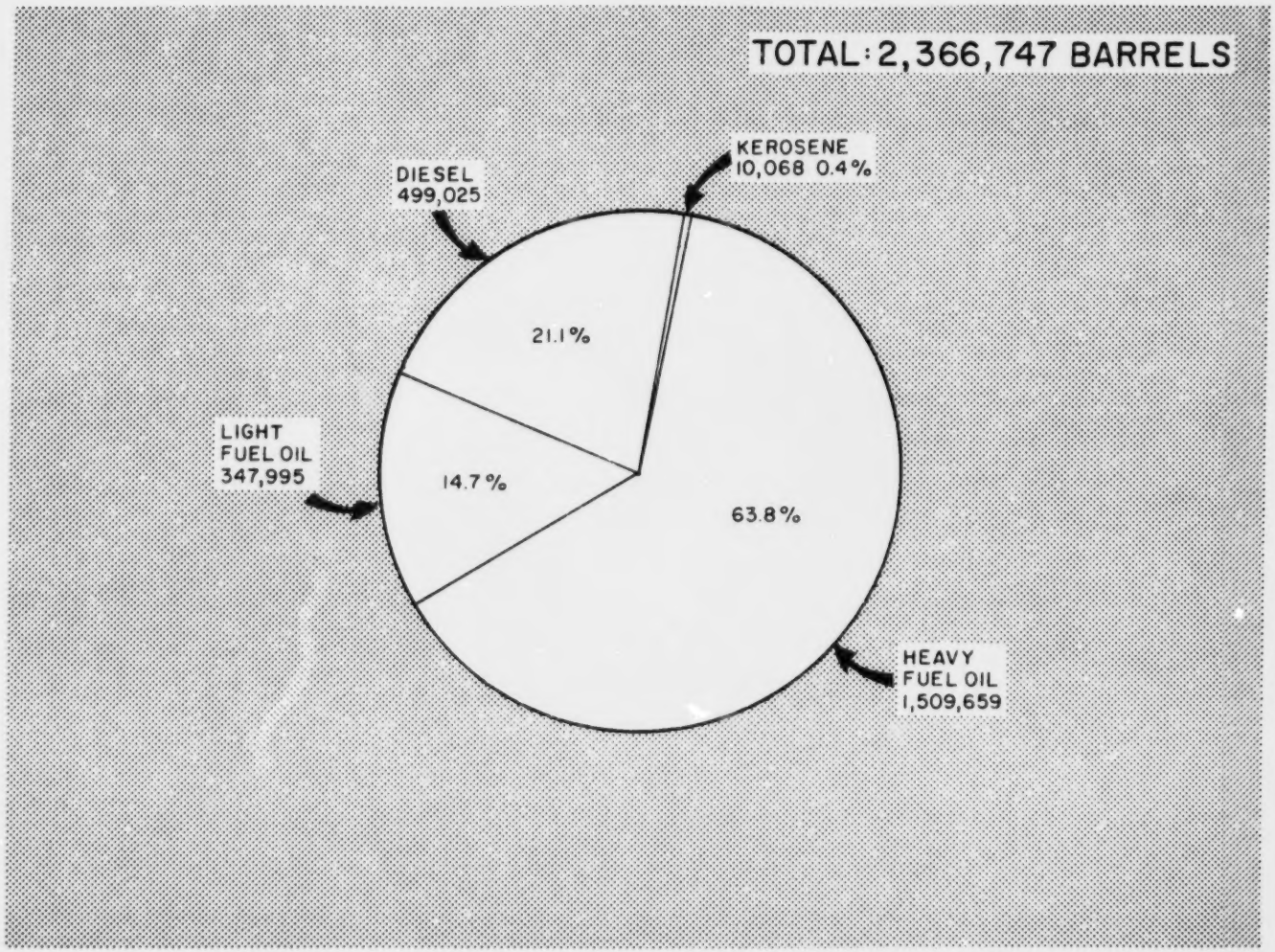


PETROLEUM PRODUCTS CONSUMED IN THE INDUSTRIAL SECTOR

In Nova Scotia, the industrial sector consumed a total of 2,366,747 barrels of petroleum products in 1982. This amounted to 9.3% of total petroleum end use in this year. Heavy fuel oil was the major product in the industrial sector, accounting for 63.8% of total petroleum consumption.

FUELS USED IN THE INDUSTRIAL SECTOR

1982

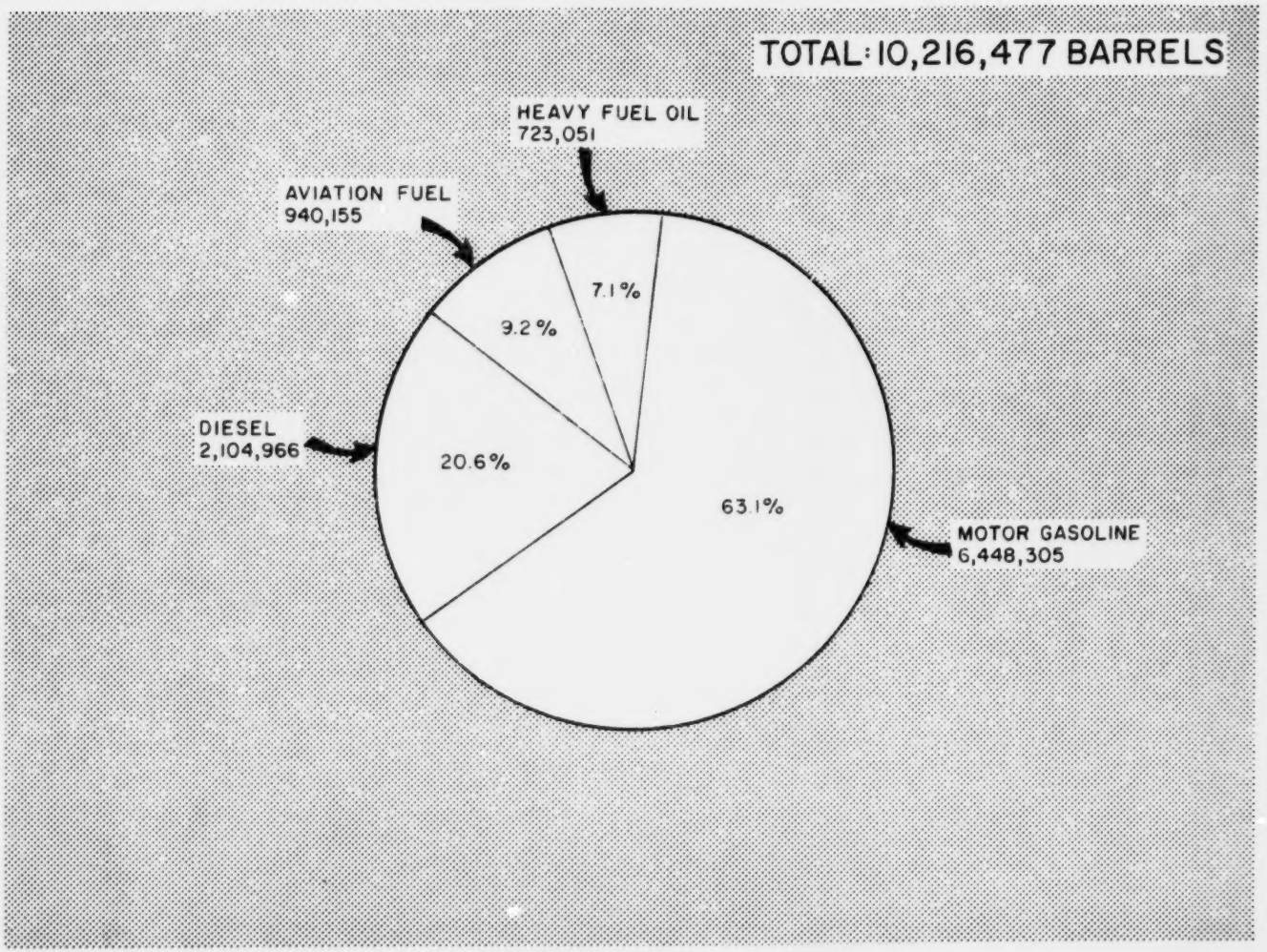


PETROLEUM PRODUCTS CONSUMED IN THE TRANSPORTATION SECTOR

During 1982, the transportation sector used 10,216,477 barrels of fuel, a decline of 9.4% from the previous year. The drop can be attributed to more fuel efficient cars, less driving and a drop in trucking activity. This sector accounted for 40.1% of the total end use of petroleum products. Of this use, 63.1% was consumed in the form of motor gasoline, while diesel fuel accounted for 20.6% of the total. The following diagram shows the various products consumed by the transportation sector.

FUELS USED IN TRANSPORTATION SECTOR

1982

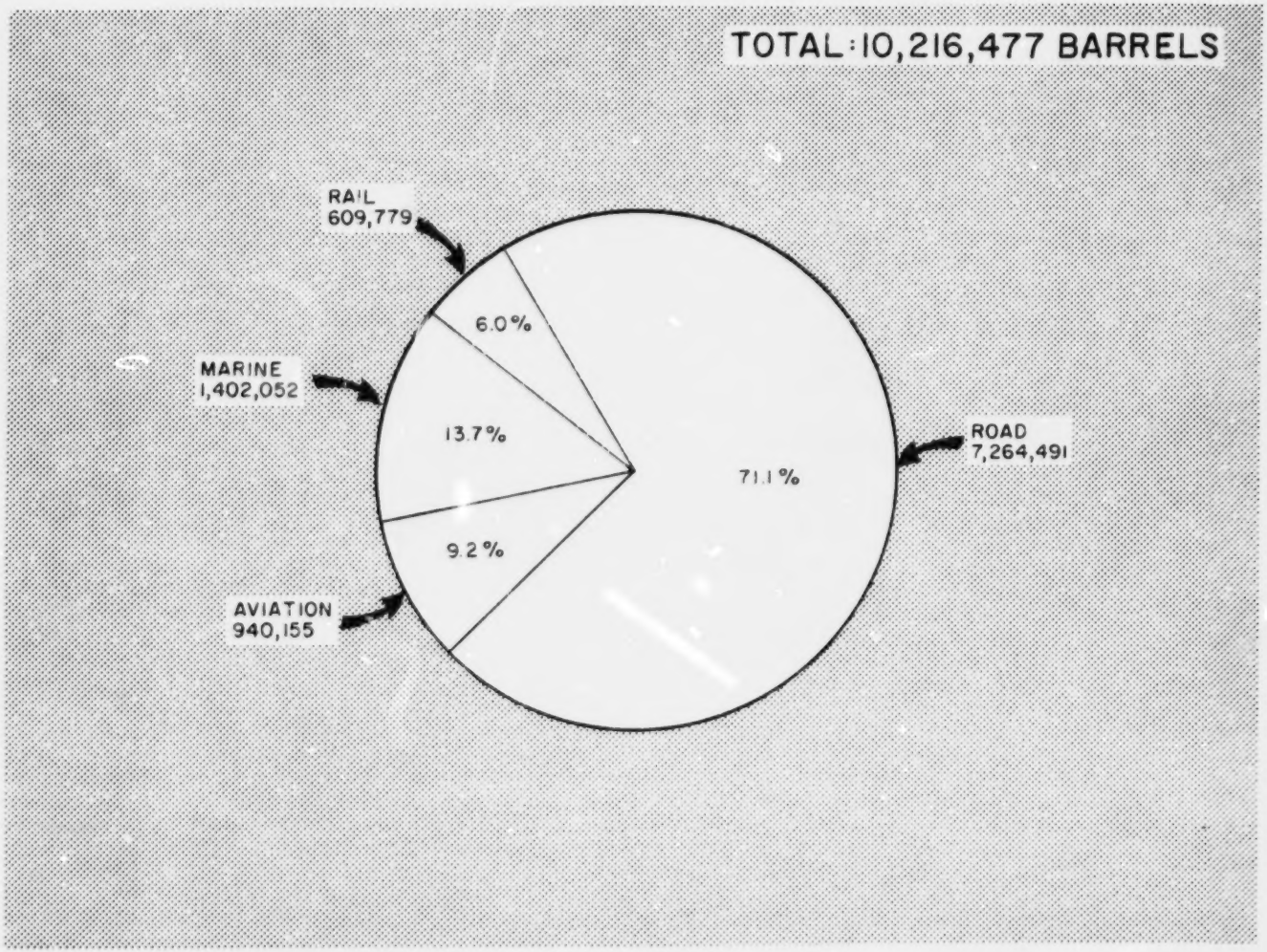


CONSUMPTION OF PETROLEUM IN THE TRANSPORTATION SECTOR BY MODE

Road vehicles are by far the largest consumers of transportation energy. In 1982, road use accounted for 7,264,491 barrels of the total 10,216,477 barrels. The remaining 2,951,986 barrels were consumed by the marine, aviation and railway modes of transportation.

PETROLEUM CONSUMPTION IN TRANSPORTATION SECTOR

1982



ELECTRICITY

INTRODUCTION

The province of Nova Scotia obtained approximately 84% of its electrical energy from thermal generation in 1982. Slightly over 40% of this thermal power was generated from burning petroleum products. In the recent past, coal had provided only one fifth of total generation. However, this figure has risen to almost 50% since the installation of two new coal fired generation units during 1979 and 1980. The Wreck Cove project added to hydroelectric generation capacity with the addition of two 100 MW units in 1978. The following pages examine in detail the electric power situation in the province of Nova Scotia.

NOVA SCOTIA
ELECTRIC UTILITY
GENERATING PLANTS

Nova Scotia has 54 hydro generating units and 34 thermal generating units with a total capacity of 1,868,362 kW. The Nova Scotia Power Corporation accounts for 95.4% of the capacity, the rest being privately owned units. A 280 kW windmill was installed during 1980. In addition, a pilot tidal project is being installed in the Annapolis Valley to assess the full potential, opportunities and practicality of Fundy tidal power.

Thermal Generating Stations

Location	No. of Units	Year Installed	Fuel Used	Generating Capacity (MW)
Burnside	4	1976	No. 2 Fuel Oil	120.000
Glace Bay (Seaboard)	5	1951-66	Coal	96.000
Lingan	2	1978,80	Coal	316.000
Maccan	1	1949	Coal	15.000
Point Tupper	2	1969,73	Bunker C	230.500
Trenton	5	1951-69	Coal	210.000
Tufts Cove	3	1965,72,76	Bunker C	350.000
Tusket	1	1971	No. 2 Fuel Oil	25.000
Victoria Junc.	2	1975,76	No. 2 Fuel Oil	60.000
Total NSPC	25			1422.500
Privately Owned	9			81.380
Total Nova Scotia	34			1503.880

Source: Electric Power Statistics, Volume III, Inventory of Prime Mover and Electric Generating Equipment
Statistics Canada Catalogue No. 57-206

NOVA SCOTIA HYDRO GENERATING STATIONS

Location	No. of Units	Year Installed	Generating Capacity (MW)
Avon	2	1929,58	6.750
Bear River			
- Gulch	1	1952	6.000
- Ridge	1	1957	4.000
Fourth Lake	1	1983	3.000
Dickie Brook	2	1948	3.800
Gisborne	1	1982	3.500
Harmony	1	1943	0.600
Hell's Gate	2	1930,49	6.930
Hollow Bridge	1	1942	5.312
Lequille	1	1968	11.180
Lumsden	1	1942	2.800
Mersey			
- Upper Lake Falls	2	1929	5.400
- Lower Lake Falls	2	1929	7.380
- Big Falls	2	1929	9.000
- Lower Great Brook	2	1955	4.500
- Deep Brook	2	1950	9.000
- Cowie Falls	2	1938	7.200
- Methals	1	1949	3.400
To be Completed:			
Annapolis Tidal Project		1984	20.000
Nictaux	1	1954	6.800
Paradise	1	1950	3.600
Roseway	2	1931,49	0.920
St. Margarets			
- Mill Lake	2	1922	2.560
- Sandy Lake	2	1928	3.200
- Tidewater	2	1922	4.640
Sheet Harbour			
- Malay Falls	3	1924	3.600
- Ruth Falls	3	1925,25,36	6.970
Sissiboo			
- Sissiboo	1	1961	6.000
- Weymouth	2	1929	18.000
Tusket Falls	3	1929	2.160
Wreck Cove	2	1978	200.000
White Rock	1	1952	3.200
Total NSPC Installed Hydro	52		361.402
Privately Owned Installed Hydro	2		5.000
Total Nova Scotia Installed Hydro	54		366.402
Wreck Cove Windmill	1	1980	0.280

Source: Electric Power Statistics, Volume III, Inventory of Prime Mover and Electric Generating Equipment Statistics Canada Catalogue No. 57-206

NOVA SCOTIA
GENERATION
OF
ELECTRICITY

The total generation of electricity in Nova Scotia increased at an average annual rate of 2.5% during the period 1974-82. Specifically, hydro-electric generation increased by 4.3% per annum while thermal generation increased by 2.2%. In 1982, thermal generation accounted for 84.2% of all electrical generation in the province.

Nova Scotia Generation of Electricity 1974-1982

(Megawatt Hours)

	1974	1975	1976	1977	1978	1979	1980	1981	1982
Hydro Generation	743,261	623,605	792,013	793,859	771,625	1,176,267	902,795	1,167,222	1,040,563
Thermal Generation	4,658,981	4,837,900	4,870,162	4,965,152	5,360,097	4,989,343	5,960,255	5,402,222	5,540,202
Total Generation	5,402,242	5,461,505	5,662,175	5,759,011	6,131,722	6,165,610	6,863,050	6,569,444	6,580,765
Received from Other Provinces	229,612	297,012	389,692	384,766	261,758	502,386	172,649	316,987	216,127
Delivered to Other Provinces	72,756	96,238	16,269	20,183	39,853	150,899	226,620	125,189	132,930
Total Available to Nova Scotia	5,559,098	5,662,279	6,035,598	6,123,594	6,353,627	6,517,097	6,809,079	6,761,242	6,663,962

Source: Electric Power Statistics
Statistics Canada Catalogue No. 57-001

FUELS USED
BY NSPC
TO GENERATE
ELECTRICITY

Fuels Used to Generate Electricity, NSPC, 1973-1982[1]

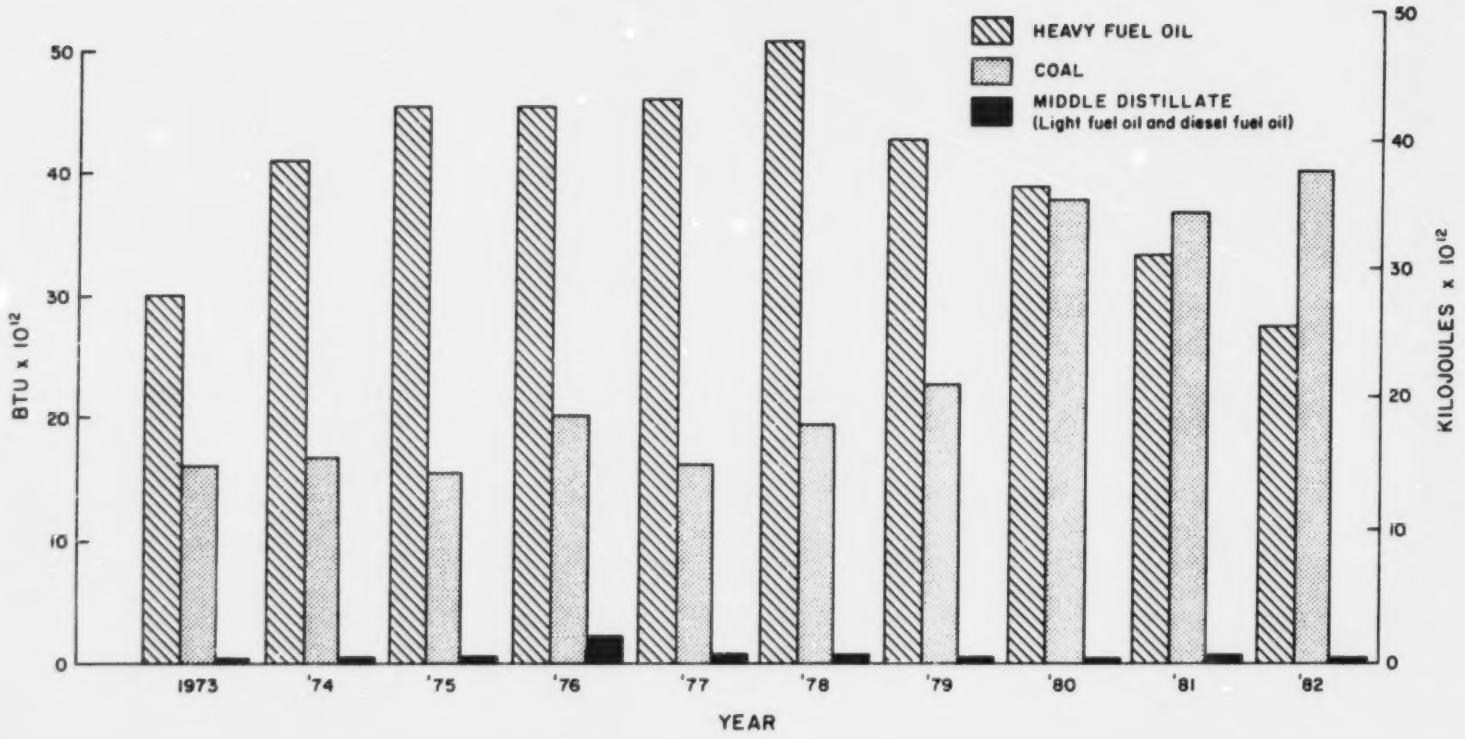
	Natural Units				billions of Btus/trillions of joules					
	Coal (short tons/ metric tonnes)	Light Fuel Oil (gallons/ litres)	Heavy Fuel Oil (gallons/ litres)	Diesel Fuel Oil (gallons/ litres)	Coal[2]	Light Fuel Oil	Heavy Fuel Oil	Diesel Fuel Oil	Total	Total Metric Equivalent
1973	632102	940744	184030420	944480	15929	157	33059	157	49421	52120
1974	662673	1683611	242494385	912021	16699	280	43562	151	60692	64007
1975	628614	3146866	255984645	859119	15841	523	45985	143	62492	65905
1976	801346	255630	254668575	12570017	20193	43	45749	2093	68078	71796
1977	657755	1243030	257520620	2698770	16575	207	46261	449	63492	66960
1978	783067	1002909	283355555	1229670	19733	167	50902	205	71007	74885
1979	899459	1199706	238231595	639377	22666	200	42796	107	65769	69361
1980	1504059	1110944	216642370	457416	37902	185	38918	76	77081	81291
1981	1451759	1118405	174084470	474036	36584	186	31273	79	68122	71842
1982	1722439	861313	154881720	240222	43405	143	27823	40	71411	75312
1982	1562570	3915606	704106239	1092071	45776	151	29343	42	75312	-

[1] Figures include fuel used to generate steam
Shaded area represents metric equivalent
Source: Nova Scotia Power Corporation

[2] Assumes 25.2 MMBtu per ton of coal

FUEL USED TO GENERATE ELECTRICITY

1973–1982



NET GENERATING
CAPABILITY -
ATLANTIC PROVINCES

The net generating capability refers to the amount of power available from all generating sources during the one hour of the year in which demand for power reaches its peak. This period generally occurs in late December or early January when the daylight period is shortest, temperatures are low and Christmas electricity demands increase. Figures show that in Nova Scotia this net generating capability has increased at an average annual rate of 5.3% during the period 1971-1982. This reflects the addition of new generating capability at 11 stations.

Net Generating Capability - Atlantic Provinces, 1971-1982

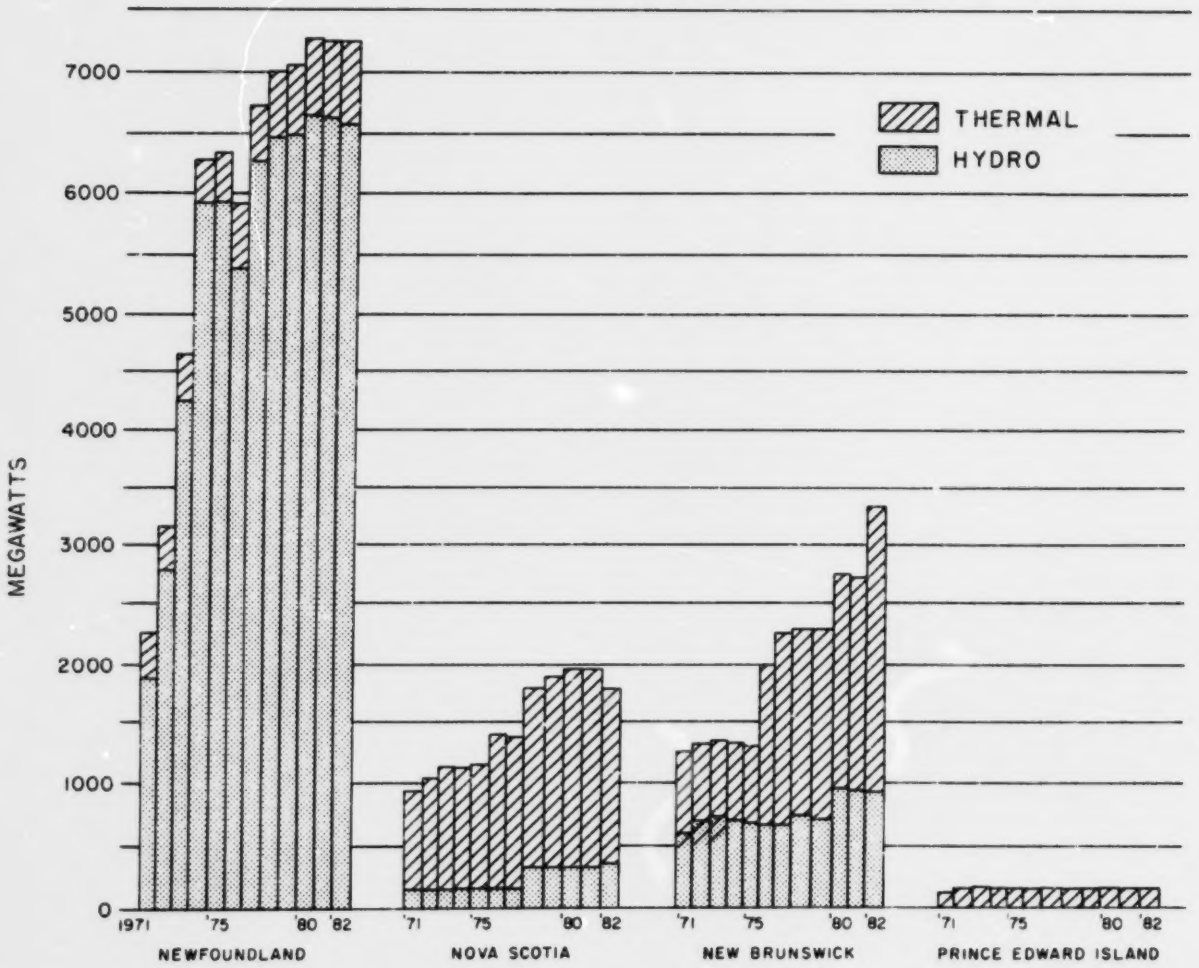
(Megawatts)

	Nova Scotia			Newfoundland			Prince Edward Island			New Brunswick		
	Hydro	Thermal	Net G. Cap.	Hydro	Thermal	Net G. Cap.	Hydro	Thermal	Net G. Cap.	Hydro	Thermal	Net G. Cap.
1971	160	795	955	1,899	390	2,289	0	87	87	580	652	1,232
1972	160	893	1,053	2,824	376	3,200	0	87	87	683	648	1,331
1973	159	995	1,154	4,270	384	4,654	0	89	89	684	649	1,333
1974	159	995	1,154	5,919	392	6,311	0	114	114	683	642	1,325
1975	159	1,020	1,179	5,919	443	6,362	0	113	113	669	619	1,288
1976	159	1,314	1,473	5,441	470	5,911	0	113	113	673	1,294	1,967
1977	159	1,308	1,467	6,364	410	6,774	0	112	112	673	1,634	2,307
1978	356	1,305	1,661	6,502	501	7,003	0	112	112	698	1,637	2,335
1979	356	1,452	1,808	6,493	550	7,043	0	112	112	675	1,660	2,335
1980	376	1,559	1,935	6,640	697	7,337	0	112	112	890	1,837	2,727
1981	376	1,559	1,935	6,624	693	7,317	0	113	113	884	1,816	2,700
1982	376	1,302	1,678	6,571	674	7,245	0	113	113	916	2,426[1]	3,342

Source: Electric Power Statistics, Volume I, Annual Electric Power Survey of Capability and Load Statistics Canada Catalogue No. 57-204

[1] Includes 630 MW of nuclear net generating capability

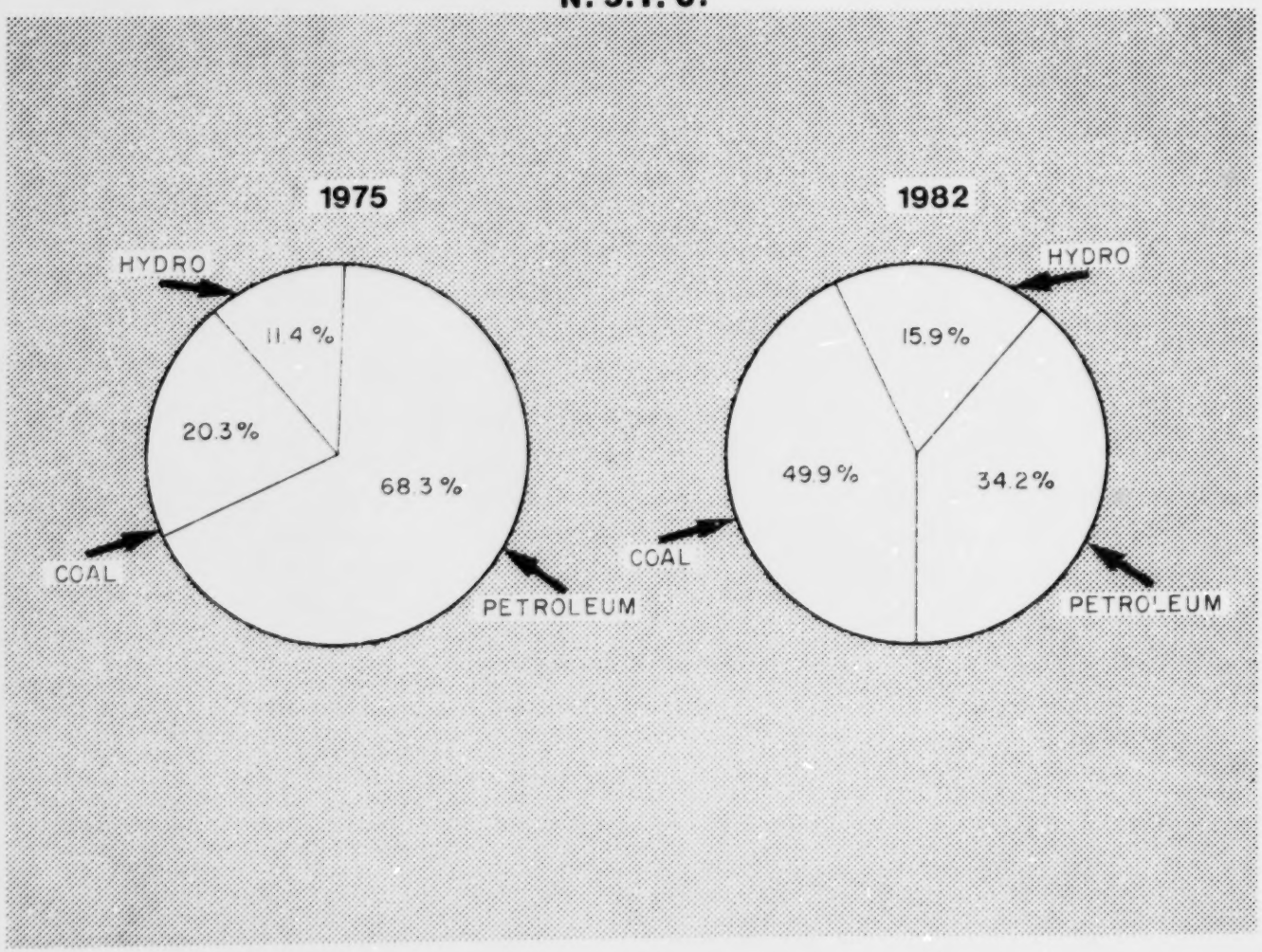
NET GENERATING CAPABILITY BY PROVINCE
1971-1982



NOVA SCOTIA TYPES OF ELECTRICAL GENERATION

In Nova Scotia, electricity is generated by two methods. A limited amount of generation is from hydro-electric sources while the greater percentage is of thermal origin. Coal and petroleum products are the fuels used in the thermal generating plants. The following diagram illustrates the shift that has taken place in the composition of electric power generation since 1975. During this period, generation from foreign oil decreased from 68.3% in 1975 to 34.2% of total electricity produced in 1982. Meanwhile coal has increased its share of electric power generation from 20.3% in 1975 to 49.9% in 1982. This trend can be expected to continue in the future as two additional coal fired generating facilities at Lingan (numbers 3 and 4) commence operations in 1984. The planned role for petroleum in electrical generation is to act merely as a peak capacity fuel, thus reducing its contribution to about 10% of overall generation.

GENERATION OF ELECTRICITY BY FUEL USED
N.S.P.C.

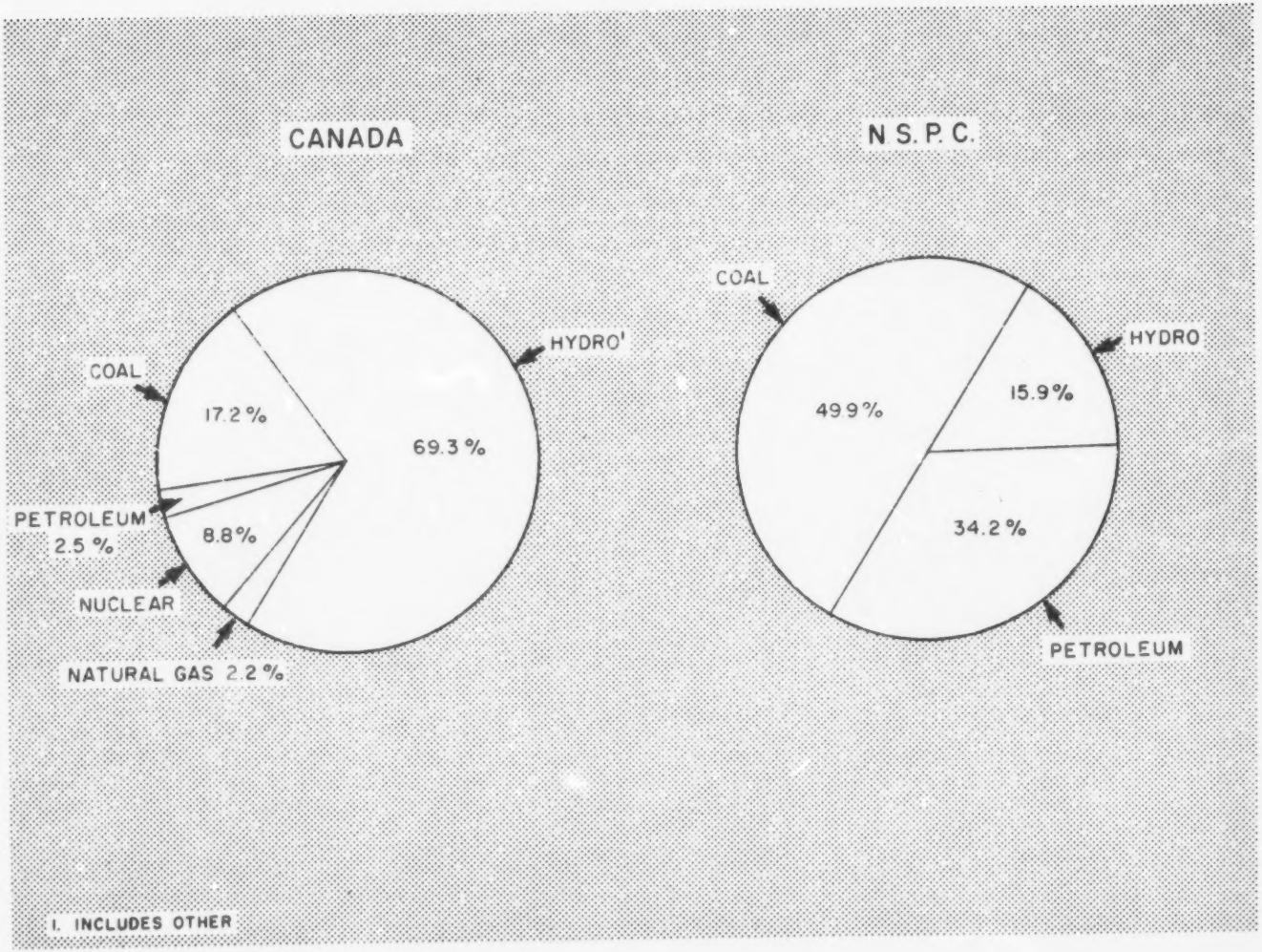


GENERATION OF ELECTRICITY BY FUEL USED - NSPC AND CANADA

The pie diagrams on the next page show the marked difference in the mix of fuels used by the Nova Scotia Power Corporation and Canada to generate electricity in 1982. In Canada as a whole, hydro electric power accounts for almost 70% of total generation compared to 15.9% in Nova Scotia. Nova Scotia Power Corporation is still dependent on oil-fired generation for 34.2% of its electric power output compared to less than 3% for the entire country. As greater use is made of indigenous energy sources in Nova Scotia, dependence on oil for electric power generation will decline substantially.

GENERATION OF ELECTRICITY BY FUEL USED

1982



NOVA SCOTIA
CONSUMPTION OF
ELECTRICITY BY SECTOR

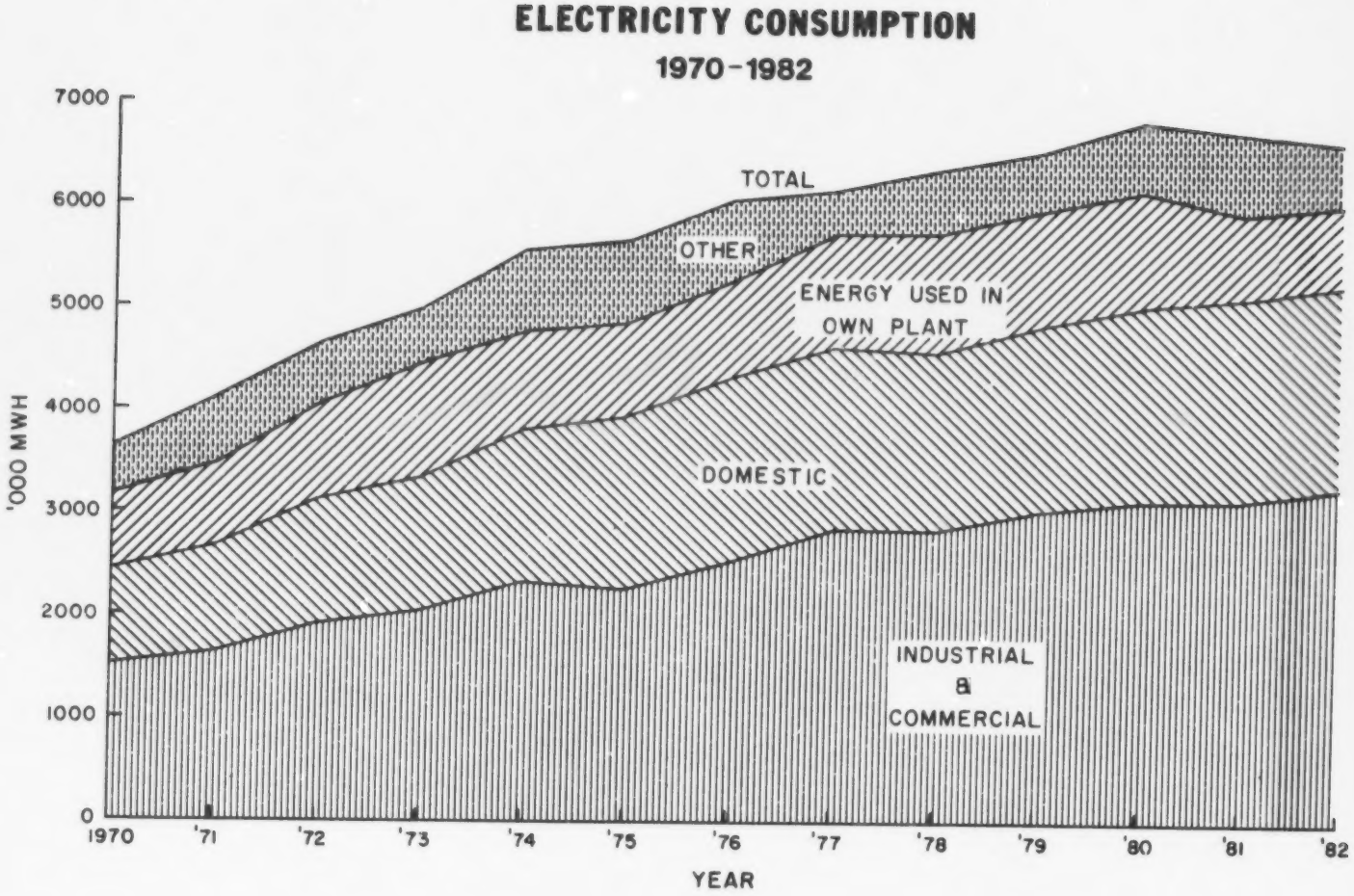
In 1982, consumption of electricity in Nova Scotia totalled approximately 6,664 gigawatt hours (GWh), a 1.4% decrease from 1981. The industrial and commercial sectors were the largest consumers, accounting for 48.8% of the total between them. The domestic sector consumed 30.0%, while the category "energy used in own plant", which takes into account electricity used by companies with their own electric power generating facilities, accounted for an additional 11.4% of total consumption.

Electricity Consumption, by Sector, 1975-1982
(Megawatt Hours)

	1975	1976	1977	1978	1979	1980	1981[1]	1982[1]
Domestic	1,682,828	1,784,557	1,768,814	1,748,847	1,824,520	1,868,462	1,935,695	2,001,398
Industrial & Commercial	2,272,234	2,525,926	2,856,240	2,830,917	3,004,740	3,133,264	3,190,043	3,252,992
Street Lighting	49,313	59,525	62,544	65,731	67,923	69,244	70,567	70,361
Total N.S. Sales	4,004,375	4,370,008	4,687,598	4,645,495	4,897,183	5,070,970	5,196,305	5,324,751
Energy Used in own Plant	883,648	927,141	1,079,730	1,128,257	1,128,902	1,152,181	799,199	757,060
Losses & Other	774,256	738,449	356,266	579,875	491,012	585,928	765,738	582,151
Total N.S. Consumption	5,662,279	6,035,598	6,123,594	6,353,627	6,517,097	6,809,079	6,761,242	6,663,962

Source: Electric Power Statistics
Statistics Canada Catalogue No. 57-001

[1] Calculated using NSPC and Statistics Canada Figures


ELECTRICITY CONSUMPTION
1970-1982
7000
6000
5000
4000
3000
2000
1000
0
'000 MWH
TOTAL
OTHER
ENERGY USED IN
OWN PLANT
DOMESTIC
INDUSTRIAL
&
COMMERCIAL
1970
'71
'72
'73
'74
'75
'76
'77
'78
'79
'80
'81
'82
YEAR

COAL

INTRODUCTION

The production of coal in Nova Scotia has been steadily increasing over the last eight years. Coal has been identified as the most promising conventional energy source for Nova Scotia as it is an indigenous, and, therefore, a secure resource. Large coal reserves exist within Nova Scotia and this coal will provide for the displacement of most foreign oil used for electrical generation within the next decade. Currently, the Nova Scotia Power Corporation is the largest single consumer of coal. In 1982, 1,722,439 short tons were used in the generation of electric power, an increase of 133.4% since 1978. A more detailed analysis of Nova Scotia's coal industry will be presented in this section.

NOVA SCOTIA
COAL
RESOURCES

Exploration programs completed by the Province of Nova Scotia indicate that there are more than 3.5 billion tons of coal present in various coal basins within the Province. This translates into more than 100 years of supply at present consumption levels. More than 90% of these resources are found in the Sydney coalfield.

The variability of thickness, quality and quantity of coal in the various basins poses serious constraints on the eventual recovery levels from particular seams. Because of these constraints, it is estimated that about one-third, or approximately 1.2 billion tons can eventually be extracted. This ensures at least 30 years supply at current production leve

Estimates of Total Coal Resources in Nova Scotia

Location	Total Resource (millions of short tons)	Potential Recoverable Resources (millions of short tons)	% Recoverable
Sydney Coalfield	3,200.0 Open Pit: 30.0	1,000.0 Open Pit: 20.0	31% 67%
Pictou Coalfield	70.0	Open Pit: 10.0 Other: 20.0	43%
Port Hood Basin	35.0	15.0	43%
Chimney Corner	4.0	1.0	25%
Mabou	160.0	80.0	50%
Inverness	0.5	0.1	20%
St. Rose	6.0	3.0	50%
Debert	3.5	Open Pit: 0.3 Other: 1.0	37%
River Hebert	2.0	Open Pit: 0.2 Other: 0.1	15%
Springhill	50.0	Open Pit: 0.6 Other: 20.0	41%
Total	3,561.0	1,171.3	33%
Total	3,230.5	1,062.6	33%

Shaded area represents metric equivalent (millions of metric tonnes)

NOVA SCOTIA
COAL
PRODUCTION
AND SHIPMENTS

During 1982, coal production increased 20.2% from the level of production recorded the previous year. Shipments to other provinces declined 26.8%, while exports increased 81.5% in 1982. There was also a build-up of stockpiles and inventories of approximately seventy-five thousand tons in 1982.

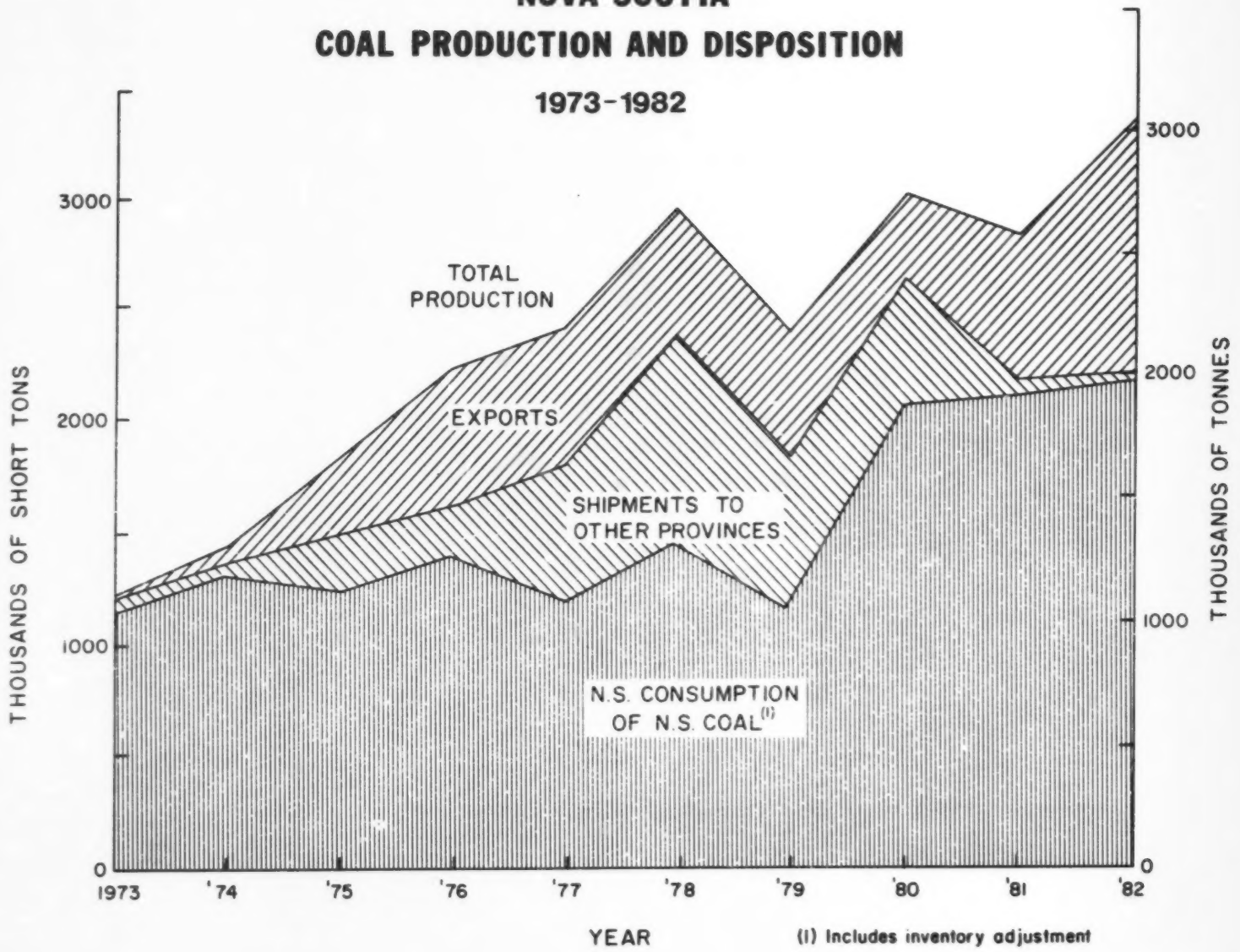
Nova Scotia Production of Coal and Out of Province Shipments, 1973-1982
(thousands of short tons/thousands of metric tonnes)

	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1982
Production	1,175	1,410	1,975	2,204	2,386	2,921	2,379	3,005	2,799	3,363	3,051
Shipments to Other Provinces	91	106	278	217	635	926	637	231	71	52	47
Exports	--	26	377	616	601	570	551	603	638	1,158	1,050
Total Out of Province Shipments	91	132	655	833	1,236	1,496	1,188	834	709	1,210	1,097

Shaded area represents metric equivalent (thousands of metric tonnes)

Source: Coal and Coke Statistics
Statistics Canada Catalogue No. 45-002

NOVA SCOTIA
COAL PRODUCTION AND DISPOSITION
1973-1982



(1) Includes inventory adjustment

COAL
SHIPMENTS
INTO
NOVA SCOTIA

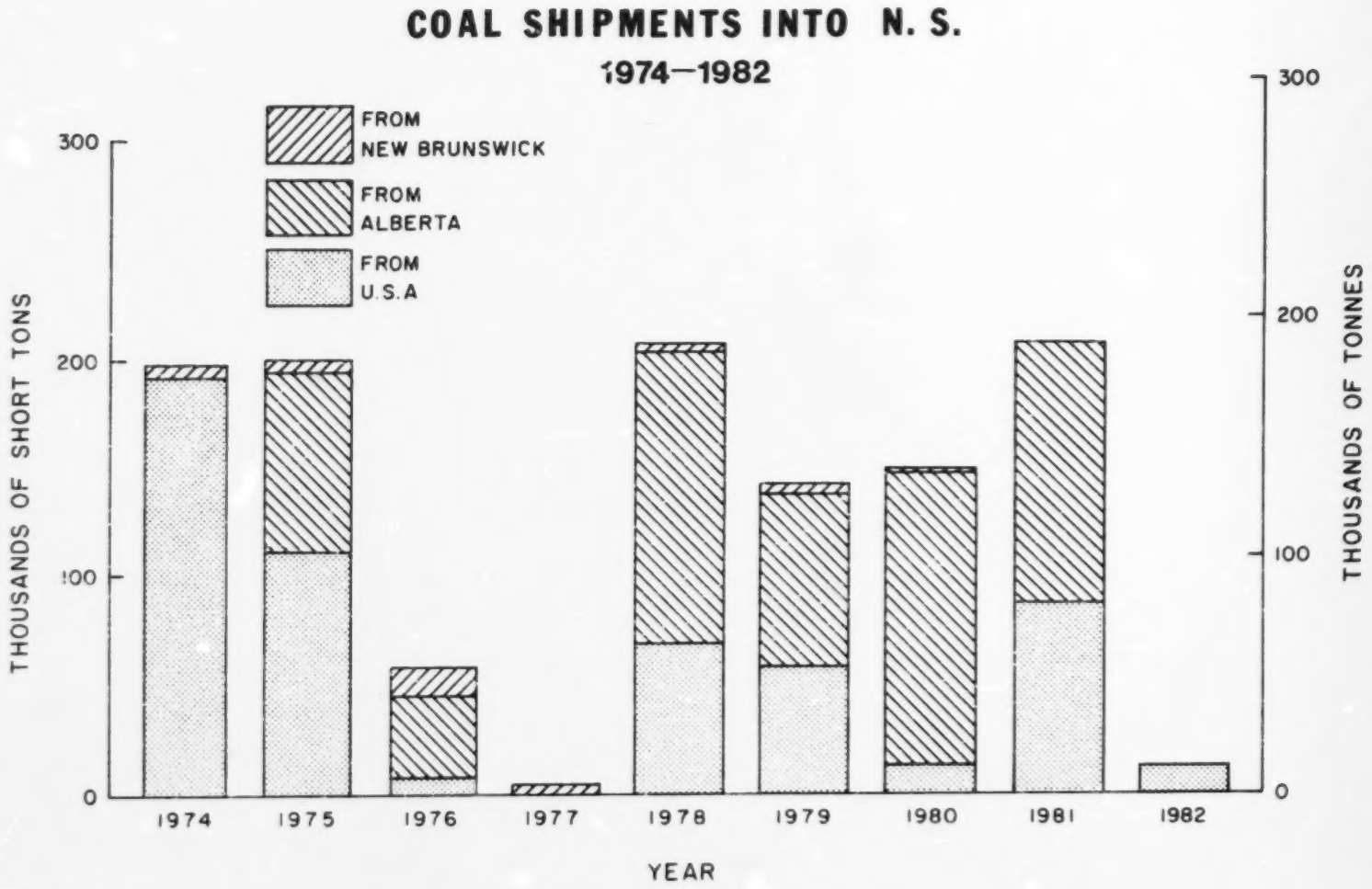
The Sydney Steel Corporation requires a certain amount of low volatile coal for coking purposes. Since Cape Breton coal is highly volatile, it is necessary to import quantities of less volatile coal to mix with the coal produced locally. However, shipments fell significantly during 1982 as a result of the difficulties in the steel industry in Cape Breton.

Coal Shipments Into Nova Scotia, 1974-1982
(thousands of short tons/thousands of metric tonnes)

Shipments from:	1974	1975	1976	1977	1978	1979	1980	1981	1982	1982
New Brunswick	5	5	11	4	3	3	1	0	0	0
Alberta	0	82	39	0	135	85	133	113	0	0
United States	194	113	8	0	68	56	12	94	14	13
Total Shipments	199	200	58	4	206	144	146	207	14	13

Shaded area represents metric equivalent (thousands of metric tonnes)

Source: Coal and Coke Statistics
Statistics Canada Catalogue No. 45-002


COAL SHIPMENTS INTO N. S.
1974—1982
FROM NEW BRUNSWICK
FROM ALBERTA
FROM U.S.A
THOUSANDS OF SHORT TONS
THOUSANDS OF TONNES
300
200
100
0
1974
1975
1976
1977
1978
1979
1980
1981
1982
YEAR

NOVA SCOTIA
COAL
CONSUMPTION

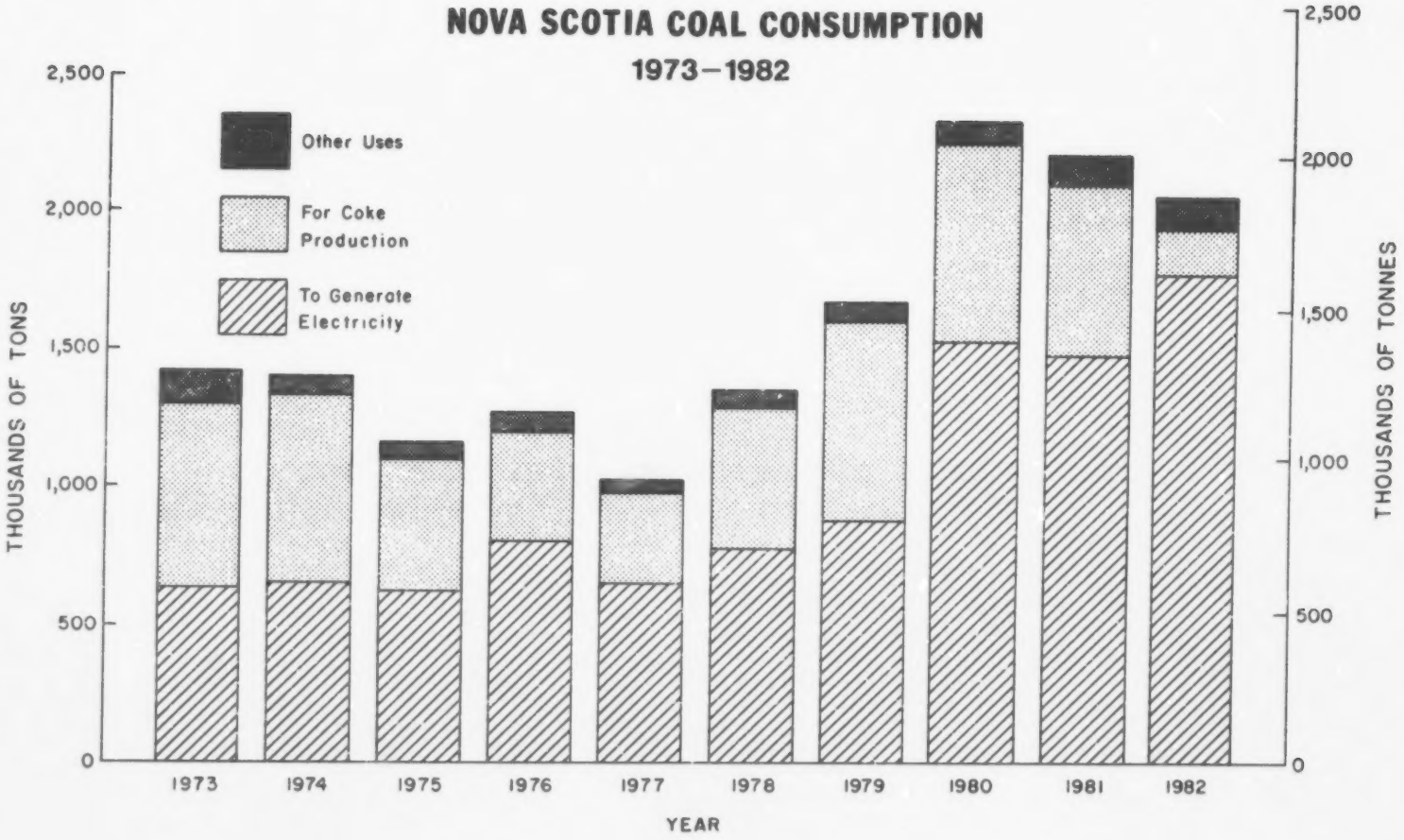
The gross coal consumption in Nova Scotia is calculated by adjusting total production to account for changes in inventories, adding imports and shipments from other provinces and subtracting exports and shipments to other provinces. In 1982 consumption fell 4.9%. Most of the decrease can be accounted for by the Sydney Steel Corporation (SYSCO).

Nova Scotia Coal Consumption, 1973-1982
(thousands of short tons/thousands of metric tonnes)

	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1982
Consumption	1,414	1,400	1,615	1,279	1,019	1,367	1,685	2,300	2,166	2,060	1,869

Shaded area represents metric equivalent (thousands of metric tonnes)

Source: Coal and Coke Statistics
Statistics Canada Catalogue No. 45-002


NOVA SCOTIA COAL CONSUMPTION
1973–1982
Other Uses
For Coke Production
To Generate Electricity
THOUSANDS OF TONS
2,500
2,000
1,500
1,000
500
0
THOUSANDS OF TONNES
2,500
2000
1,500
1,000
500
0
1973
1974
1975
1976
1977
1978
1979
1980
1981
1982
YEAR

COAL USED
TO GENERATE
ELECTRICITY
IN NOVA SCOTIA

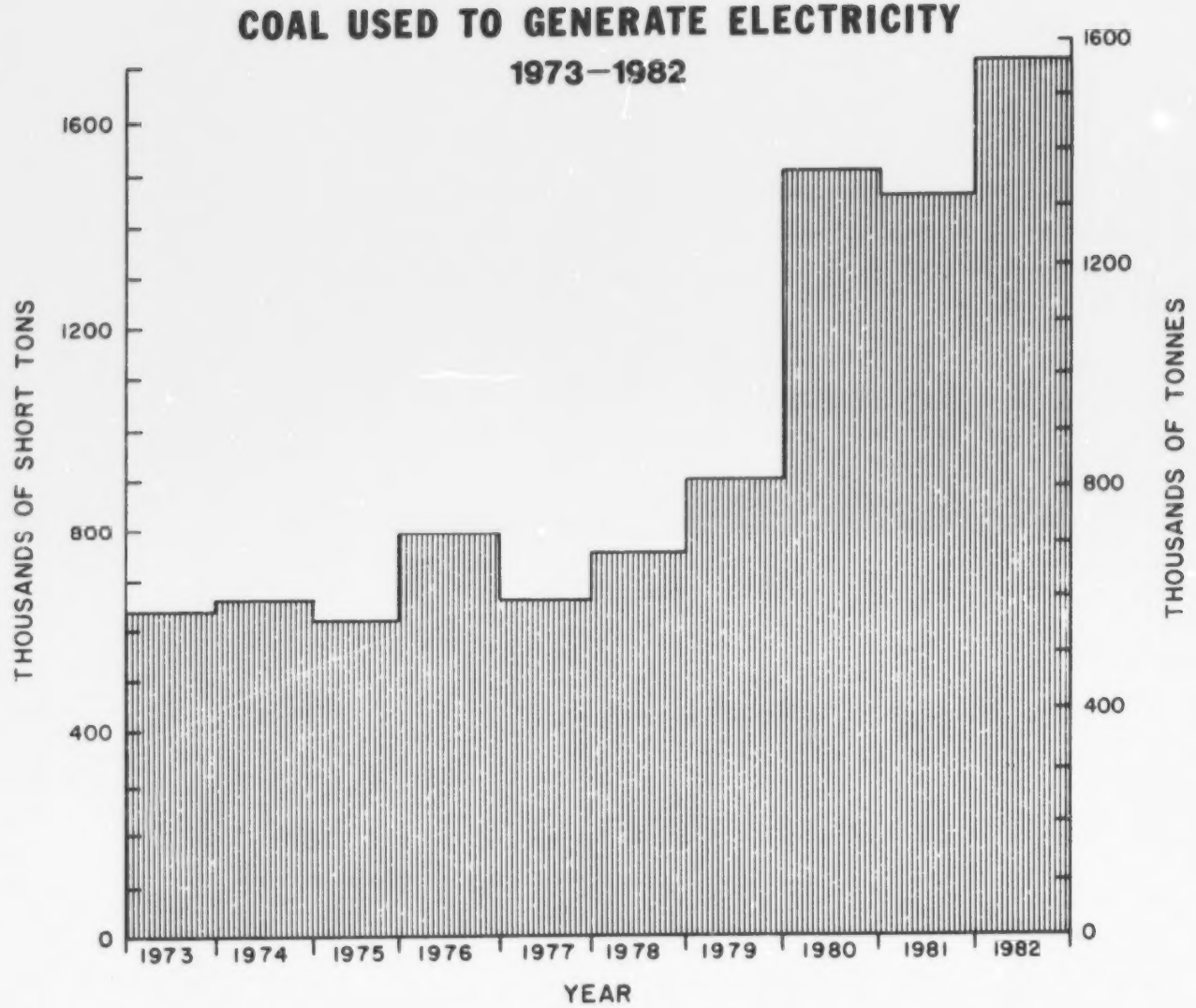
The Nova Scotia Power Corporation is the largest consumer of Nova Scotia coal. During 1982, 1,722,439 short tons of coal were used to generate electricity and steam. This represented an 18.6% increase in the use of coal over 1981 levels. The large increase in the amount of coal used by NSPC during the last few years can be attributed to the addition of the coal fired generating stations, Lingan I in mid 1979 and Lingan II in 1980.

Coal Used to Generate Electricity in Nova Scotia, 1973-1982
(thousands of short tons/thousands of metric tonnes)

	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1982
Amount	645	668	628	801	676	738	899	1,504	1,452	1,722	1,563

Shaded area represents metric equivalent (thousands of metric tonnes)

Source: Thermal Production Division, Nova Scotia Power Corporation


COAL USED TO GENERATE ELECTRICITY
1973–1982
THOUSANDS OF SHORT TONS
THOUSANDS OF TONNES
1600
1200
800
400
0
1973
1974
1975
1976
1977
1978
1979
1980
1981
1982
YEAR

NOVA SCOTIA
COKE
INDUSTRY

The second major use for Nova Scotia coal is in the production of coke by the Sydney Steel Corporation. In 1982, coal purchased for this purpose amounted to approximately 233,000 short tons.

Demand for Coal by Coke Plants[1,2] 1973-1982
(thousands of short tons/thousands of metric tonnes)

	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1982
Amount	670	724	619	401	367	504	727	751	628	233	211

[1] Includes coal used to produce manufactured gases

[2] Not necessarily used during the same year

Shaded area represents metric equivalent (thousands of metric tonnes)

Sources: Coal Mines
Statistics Canada Catalogue No. 26-006

Quarterly Report on Energy Supply-Demand in Canada
Statistics Canada Catalogue No. 57-003

NOVA SCOTIA
COKE PRODUCTION
AND CONSUMPTION

The consumption of coke in Nova Scotia is directly related to the production of steel by the Sydney Steel Corporation (SYSCO). Coke production fell approximately 63.2% during 1982, compared to the 1981 level of production reflecting the difficulties currently facing the steel industry.

Nova Scotia Coke Production and Consumption, 1973-1982[1,2]
(thousands of short tons/thousands of metric tonnes)

	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1982
Coke Production	439	510	398	286	231	324	495	518	429	158	144
Coke Consumption	366	487	376	261	238	328	466	359	226	113	103

Shaded area represents metric equivalent (thousands of metric tonnes)

Source[1] : Quarterly Report on Energy Supply-Demand in Canada
Statistics Canada Catalogue No. 57-003

[2] Figures were obtained from Sysco for the years 1973 to 1978

DOMESTIC ENERGY CONSUMPTION IN NOVA SCOTIA

INTRODUCTION

Whereas the previous sections of this report have been concerned with a broad approach to the Nova Scotia energy picture, the following pages will deal with energy use within the domestic sector. A breakdown of energy consumption in the "typical" household unit is examined.

COST OF ELECTRICITY
IN NOVA SCOTIA

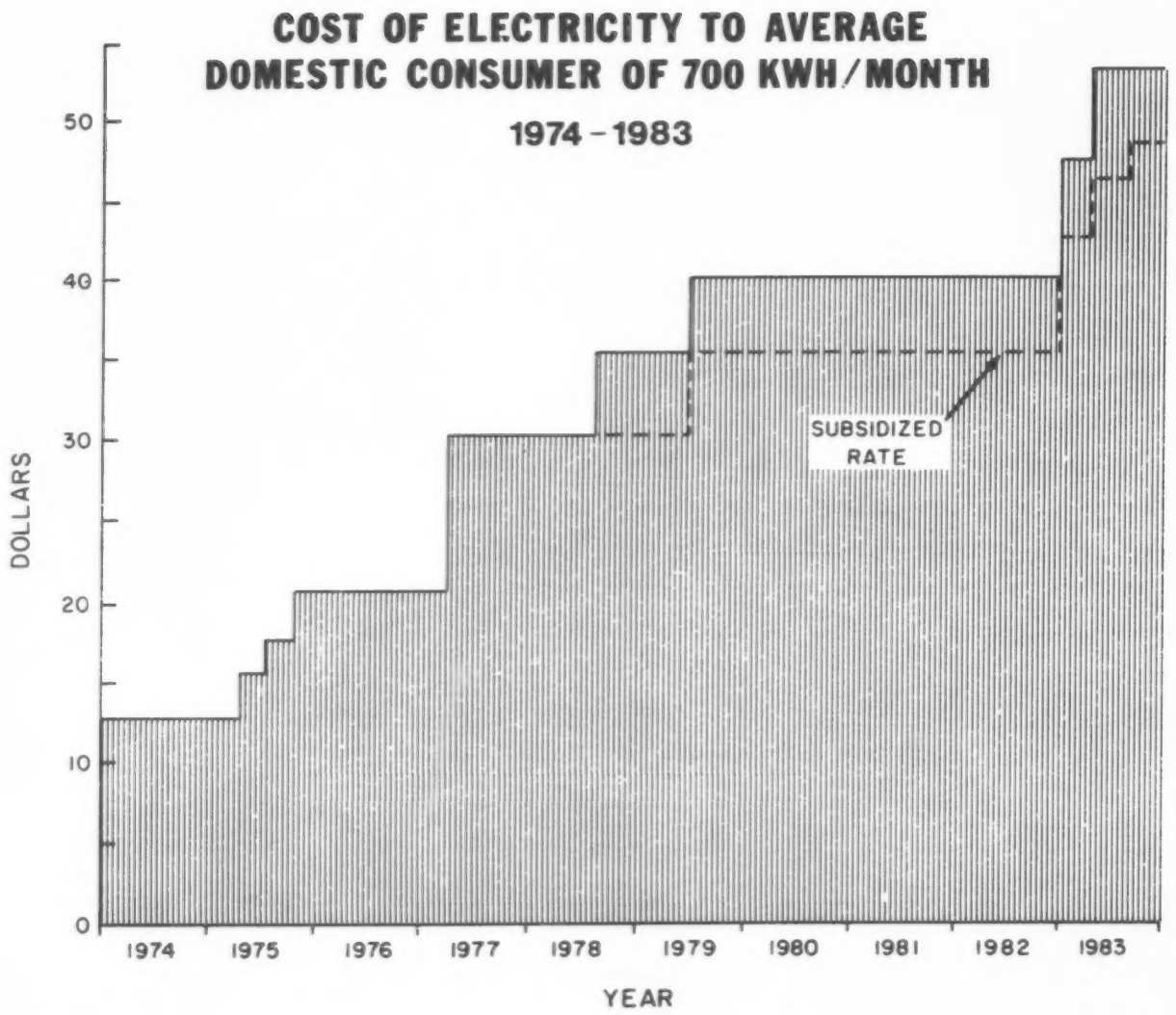
Nova Scotia Electric Power Rates - Domestic Users

Effective Date	April 15/59	July 1/75[1]	March 2/77[2]	August 2/78		June18/79	
				Unsubsidized	Subsidized[3]	Unsubsidized	Subsidized[3]
Base Charge/month ($/month)	$1.50	$2.00	$3.95	$4.40	$3.95	$4.99	$4.54
1st 100 kWh/month (¢/kWh)		3.0					
1st 200 kWh/month (¢/kWh)	2.5		4.4	4.75	4.4	5.39	5.04
Next 100 kWh/month (¢/kWh)		2.0					
Next 500 kWh/month (¢/kWh)			3.5	4.27	3.5	4.85	4.08
Additional Use (¢/kWh)	1.2	1.5	3.25	4.15	4.15	4.71	4.71

	January 1/83		April 1/83		July 1/83	
	Unsubsidized	Subsidized[4]	Unsubsidized	Subsidized[4]	Unsubsidized	Subsidized[4]
Base Charge/month ($/month)	5.90	5.29	6.64	5.76	6.64	6.01
1st 200 kWh/month (¢/kWh)	6.38	5.72	7.18	6.23	7.18	6.49
Next 500 kWh/month (¢/kWh)	5.74	5.14	6.46	5.60	6.46	5.84
Additional Use (¢/kWh)	5.57	4.99	6.27	5.44	6.27	5.67

Fuel adjustment charge:

1 Effective April 1, 1975 0.4314¢/kWh; October 1, 1975 0.8233¢/kWh
2 Fuel Adjustment Charge dropped March 2, 1977.
3 No subsidy on consumption in excess of 700 kWh per month for non-electrically heated consumers.
4 Approximate


COST OF ELECTRICITY TO AVERAGE
DOMESTIC CONSUMER OF 700 KWH/MONTH
1974 - 1983
DOLLARS
0
10
20
30
40
50
SUBSIDIZED
RATE
1974
1975
1976
1977
1978
1979
1980
1981
1982
1983
YEAR

NOVA SCOTIA
AVERAGE ANNUAL
MOTOR GASOLINE
PUMP PRICES

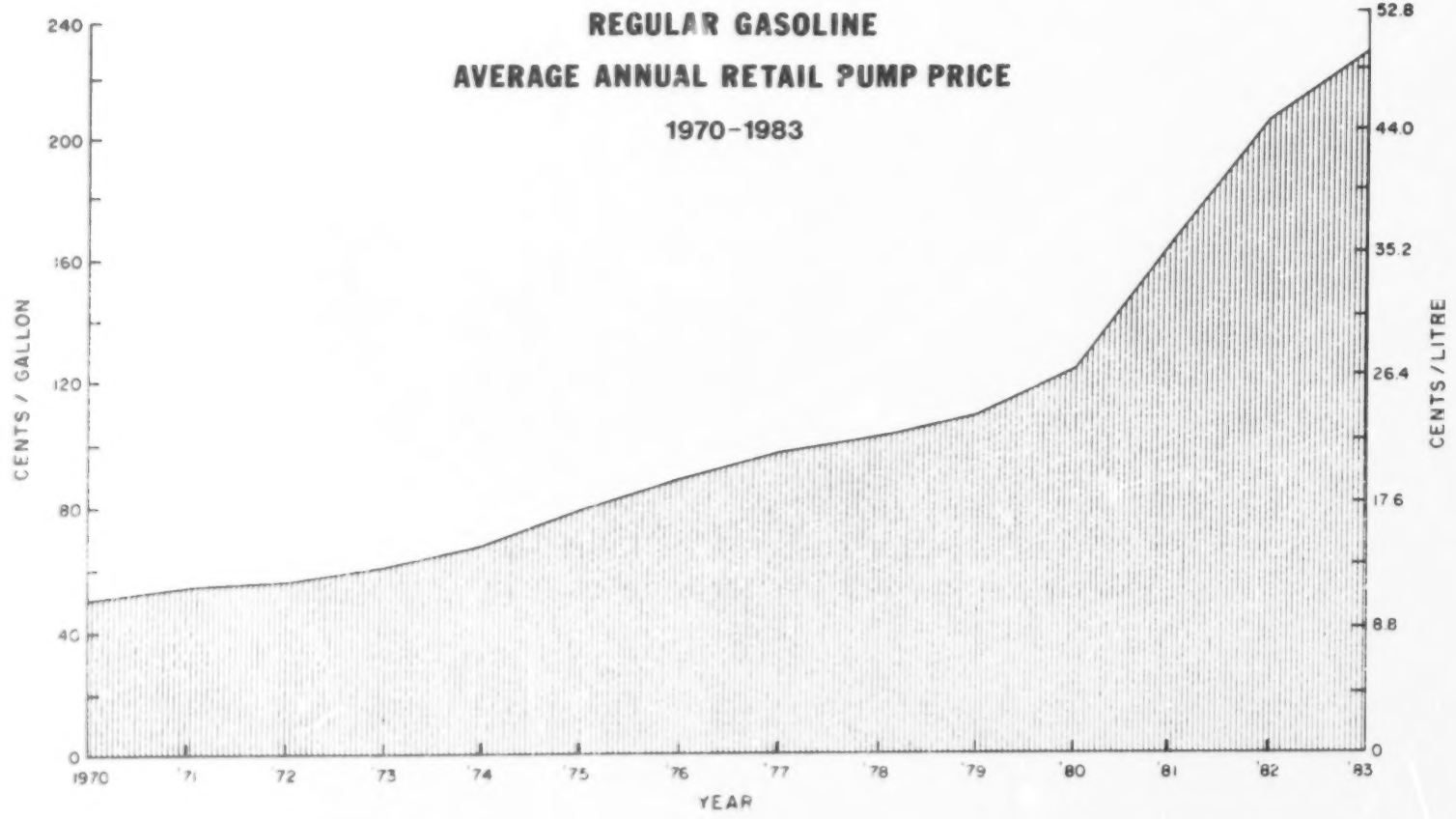
Motor gasoline prices, as well as those of all other refined petroleum products, have experienced steep price increases due mainly to rising crude oil prices. Normally, when the price of crude oil increases by one dollar per barrel, a corresponding increase of approximately 0.7 - 1.0 cents per litre or 3.2 - 4.5 cents per gallon can be expected in each refined petroleum product. Motor gasoline prices in Halifax have more than tripled since 1974. This trend is expected to moderate in the foreseeable future as world oil prices remain stable.

Regular Motor Gasoline Average Annual Pump Price, Halifax, 1974-1983

(cents per gallon/cents per litre)

	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1983
Price	68.5	77.1	88.1	96.6	103.8	108.9	124.6	164.1	202.6	224.9	49.5

Shaded area represents metric equivalent (cents per litre)


REGULAR GASOLINE
AVERAGE ANNUAL RETAIL PUMP PRICE
1970-1983
CENTS / GALLON
CENTS / LITRE
YEAR
240
200
160
120
80
40
0
52.8
44.0
35.2
26.4
17.6
8.8
0
1970
'71
'72
'73
'74
'75
'76
'77
'78
'79
'80
'81
'82
'83

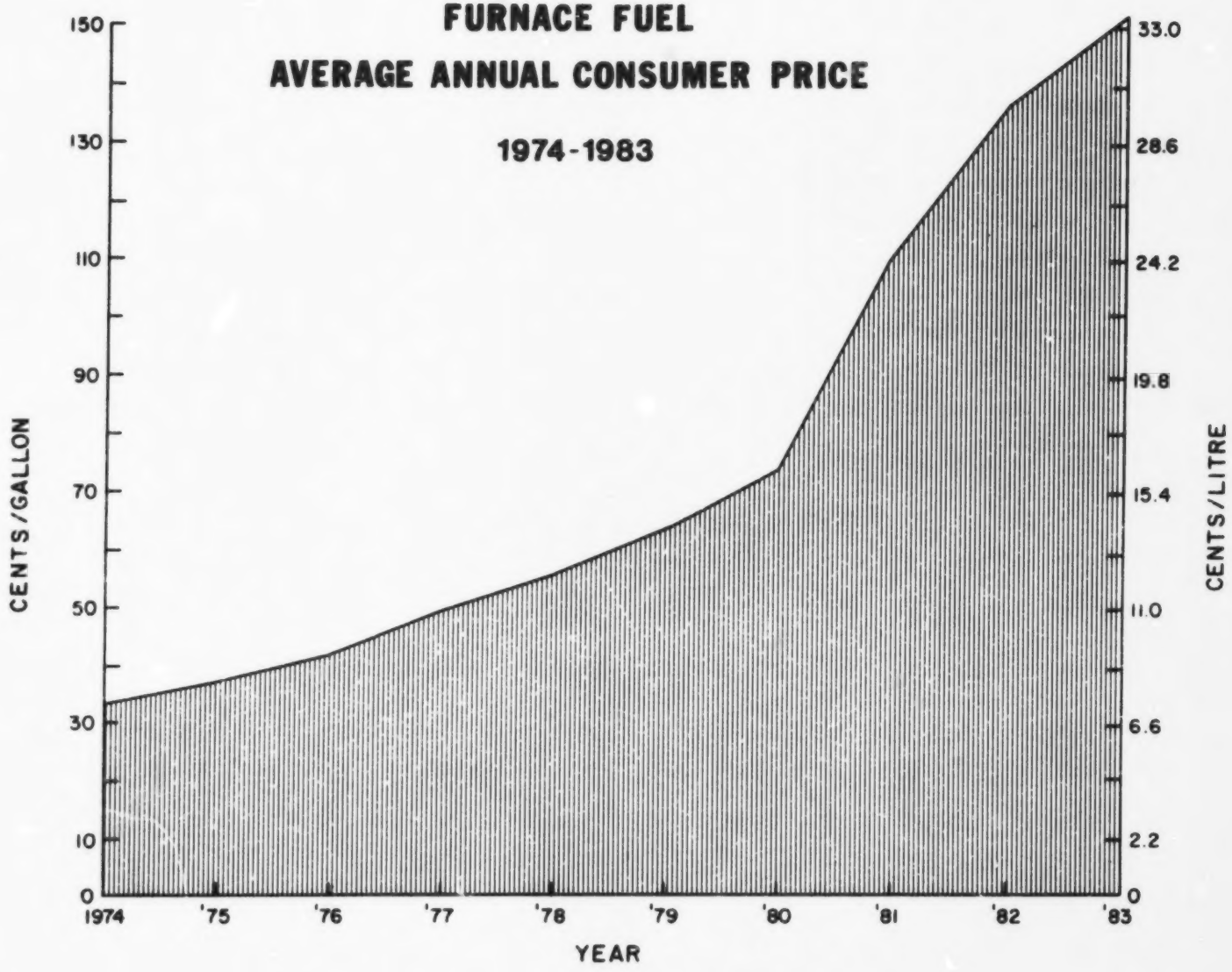
NOVA SCOTIA
AVERAGE ANNUAL
FURNACE FUEL
OIL PRICES

Since 1974, the price of furnace fuel oil has more than quadrupled. The impact of these higher prices on the consumer is obviously reflected by the decline in home heating fuel demand during the last few years.

Furnace Fuel Oil Average Annual Price, Halifax, 1974 - 1983
(cents per gallon/cents per litre)

	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1983
Consumer Price	34.1	36.2	41.7	49.2	56.7	63.7	77.0	110.8	136.8	151.9	33.4

Shaded area represents metric equivalent (cents per litre)


FURNACE FUEL
AVERAGE ANNUAL CONSUMER PRICE
1974-1983
CENTS/GALLON
150
130
110
90
70
50
30
10
0
33.0
28.6
24.2
19.8
15.4
11.0
6.6
2.2
0
CENTS/LITRE
1974
'75
'76
'77
'78
'79
'80
'81
'82
'83
YEAR

HOUSEHOLD EXPENDITURE ON ENERGY

The following table illustrates the energy expenditure breakdown of a representative Nova Scotia household. In order to arrive at this breakdown, the following assumptions were made on what constituted a representative household:

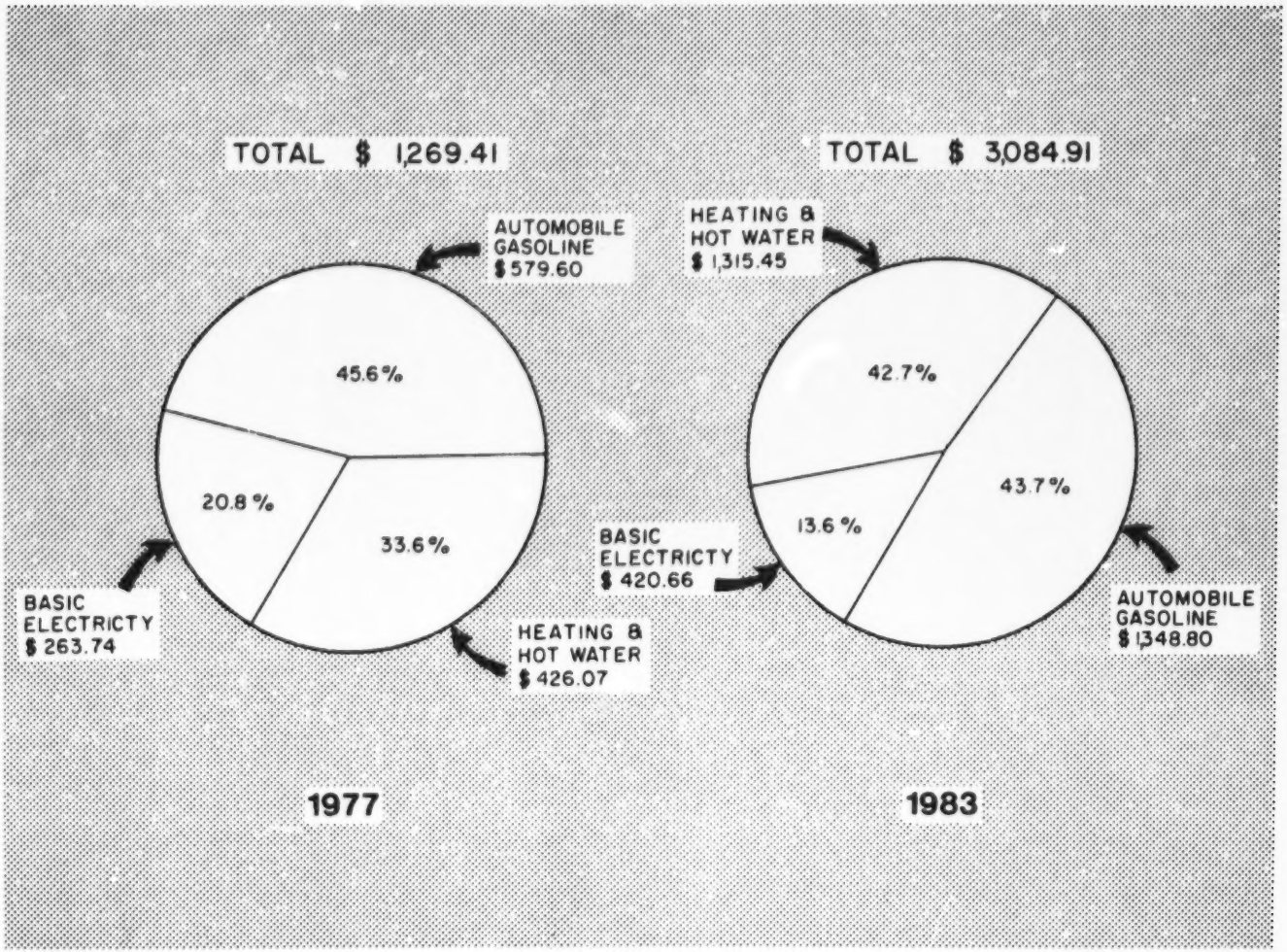
1) The household used 600 gallons (2,727 litres) of gasoline annually for driving.
2) The household consumed 6,000 kWh of electricity annually at a constant rate of 500 kWh per month.
3) Space heating and hot-water heating were provided by furnace oil. An annual amount of 866 gallons (3,931 litres) was required for these purposes.

The diagram on the following page compares the average household expenditure in 1983 with that six years earlier.

Household Expenditure on Energy, 1975-1983

	1975	1976	1977	1978	1979	1980	1981	1982	1983
Space Heating & Hot Water	$313.49	$361.12	$426.07	$491.02	$551.64	$666.82	$959.53	$1,184.69	$1,315.45
Basic electricity	160.92	193.44	269.74	285.00	308.38	328.32	328.32	328.32	426.66
Automobile	462.60	528.60	579.60	622.80	653.40	747.60	984.60	1,215.60	1,349.40
Total Energy Expenditures	937.01	1,083.72	1,275.41	1,398.82	1,513.42	1,742.74	2,272.45	2,728.61	3,091.51
Consumer Price Index (All items - Halifax) (1981 = 100)	59.0	63.9	68.9	74.2	80.8	89.4	100.0	109.6	116.4

HOUSEHOLD EXPENDITURE ON ENERGY



APPENDIX

British Thermal Unit (Btu)

The amount of heat that must be added to one pound of water to raise the temperature by 1° Fahrenheit under stated conditions of temperature and pressure.

Joule (J)

The equivalent of .23895 calories, where 1 calorie is the amount of heat required to raise the temperature of 1 gram of water from 14.5° Celsius to 15.5° Celsius under 1 atmosphere of pressure.

Megawatt (MW)

One thousand kilowatts.

Net Generating Capability

The expected power of all available generating facilities of the province during the one hour of the year in which demand for power reaches its peak.

Net Sales

Final demand for use within a defined geographical area.

Primary Energy Consumption (Gross Energy Consumption)

Total energy inputs into the economy, including petroleum, coal, natural gas and electricity generated by hydroelectric, nuclear and geothermal power plants. Conversion losses are included in this consumption.

Total End Use Energy Consumption

Inputs into the final consuming sectors, domestic and farm, commercial, industrial and transportation; consisting of direct fuels and electricity distributed from the electric power sector. Conversion losses are not included in this consumption.

ENERGY CONVERSION
TABLES

Approximate Conversion Factors

From/Into	Metric Tonnes	Long Tons	Short Tons	Barrels Petroleum	Kilolitres (cubic meters)	1,000 gallons (Imperial)	1,000 gallons (U.S.A.)
				Multiply by:			
Metric Tons x	1.000	0.984	1.102	7.428	1.180	0.259	0.311
Long Tons x	1.016	1.000	1.120	7.547	1.199	0.263	0.316
Short Tons x	0.907	0.893	1.000	6.740	1.071	0.236	0.284
Barrels (Petroleum) x	0.135	0.133	0.148	1.000	0.159	0.035	0.042
Kilolitres (cubic metres) x	0.850	0.837	0.931	6.293	1.000	0.220	0.264
1,000 gallons (Imperial) x	3.857	3.800	4.229	28.571	4.546	1.000	1.201
1,000 gallons (U.S.A.) x	3.214	3.167	3.524	23.810	3.787	0.833	1.000

BTU EQUIVALENTS OF COMMON FUELS

Fuel Type	Natural Unit	Conversion Factor millions of Btus
Coal:		
Anthracite	short ton of 2,000 pounds	25.4000
Imported Bituminous	short ton of 2,000 pounds	25.8000
Canadian Bituminous	short ton of 2,000 pounds	25.2000
Sub-Bituminous	short ton of 2,000 pounds	17.0000
Lignite	short ton of 2,000 pounds	13.2000
Coke	short ton of 2,000 pounds	24.8000
Coke Oven Gas	thousands of cubic feet	0.5000
Liquified Petroleum Gases	barrel of 35 Canadian gallons	4.0950
Crude Oil	barrel of 35 Canadian gallons	5.8030
Still Gas[1]	barrel of 35 Canadian gallons	6.2874
Motor Gasoline	barrel of 35 Canadian gallons	5.2220
Kerosene	barrel of 35 Canadian gallons	5.6770
Diesel	barrel of 35 Canadian gallons	5.8275
Light Fuel Oil	barrel of 35 Canadian gallons	5.8275
Heavy Fuel Oil	barrel of 35 Canadian gallons	6.2874
Petroleum Coke	barrel of 35 Canadian gallons	6.3852
Aviation Gasoline	barrel of 35 Canadian gallons	5.0505
Aviation Turbo Fuel	barrel of 35 Canadian gallons	5.4145
Natural Gas	thousands of cubic feet	1.0000
Electricity (use)	thousands of kilowatt hours	3.4120
Electricity (output)	thousands of kilowatt hours	10.0000

[1] Still gas is expressed in barrels of heavy fuel oil equivalent

TERAJOULE EQUIVALENT OF COMMON FUELS[1]

Fuel Type	Natural Unit	Conversion Factor (terajoules)
Coal:		
Anthracite	kilotonnes	29.53
Imported Bituminous	kilotonnes	29.99
Canadian Bituminous	kilotonnes	29.30
Sub-Bituminous	kilotonnes	19.76
Lignite	kilotonnes	15.35
Coke	kilotonnes	28.83
Coke Oven Gas	gigalitres	18.61
Liquified Petroleum Gases	megalitres	27.12
Crude Oil	megalitres	38.51
Still Gas[2]	megalitres	41.73
Motor Gasoline	megalitres	34.66
Kerosene	megalitres	37.68
Diesel	megalitres	38.68
Light Fuel Oil	megalitres	38.68
Heavy Fuel Oil	megalitres	41.73
Petroleum Coke	megalitres	42.38
Aviation Gasoline	megalitres	33.52
Aviation Turbo Fuel	megalitres	35.93
Natural Gas	gigalitres	37.23
Electricity (use)	gigawatt hours	3.60
Electricity (output)	gigawatt hours	10.55

[1] Tera = 10^{12}

[2] Still gas is expressed in barrels of heavy fuel oil equivalent